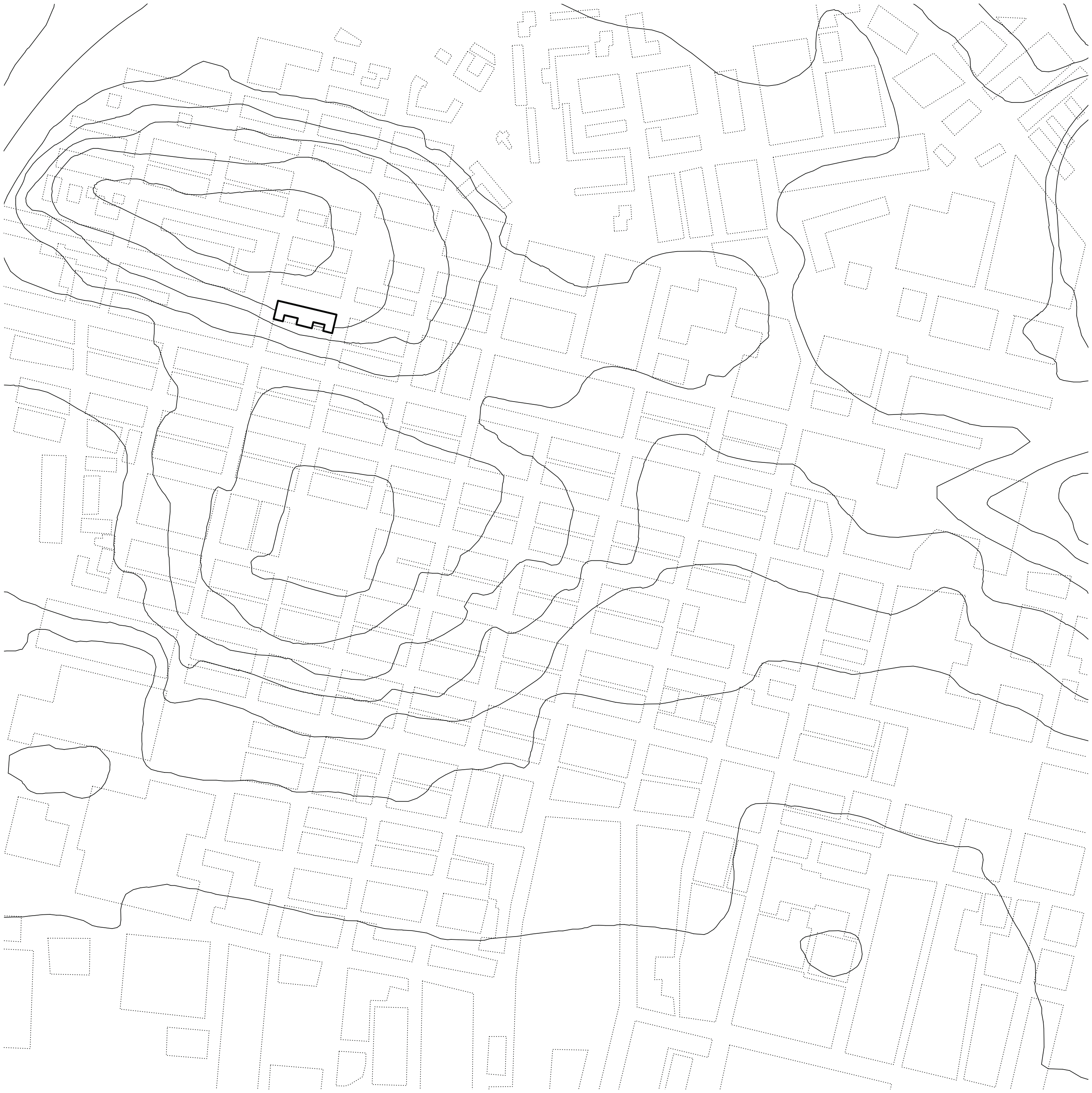
MSA PUBLICATIONS
Mackintosh School of Architecture
The Glasgow School of Art



Building in Context
Glasgow Street Grid, Topography and the Glasgow School of Art

THE LIBRARY

The Glasgow School of Art

Edited by: Mark Baines, John Barr
and Christopher Platt

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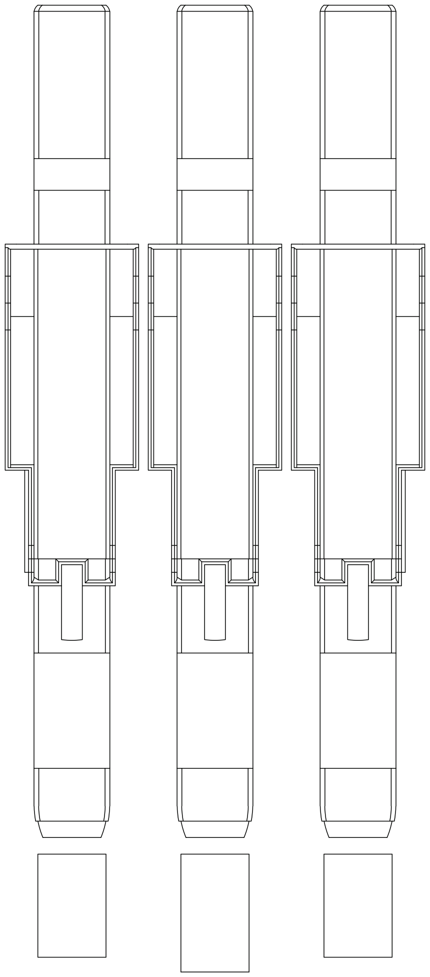
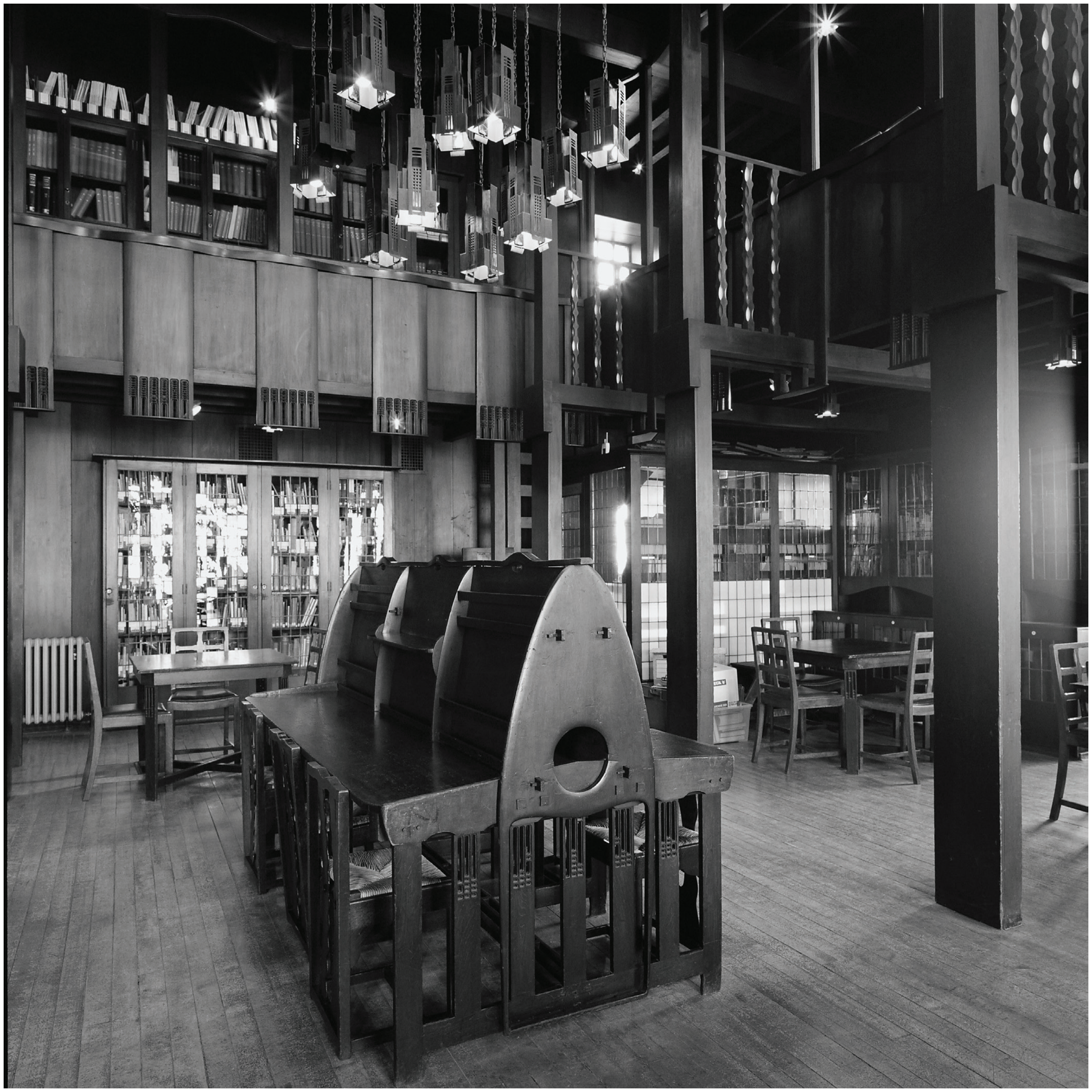
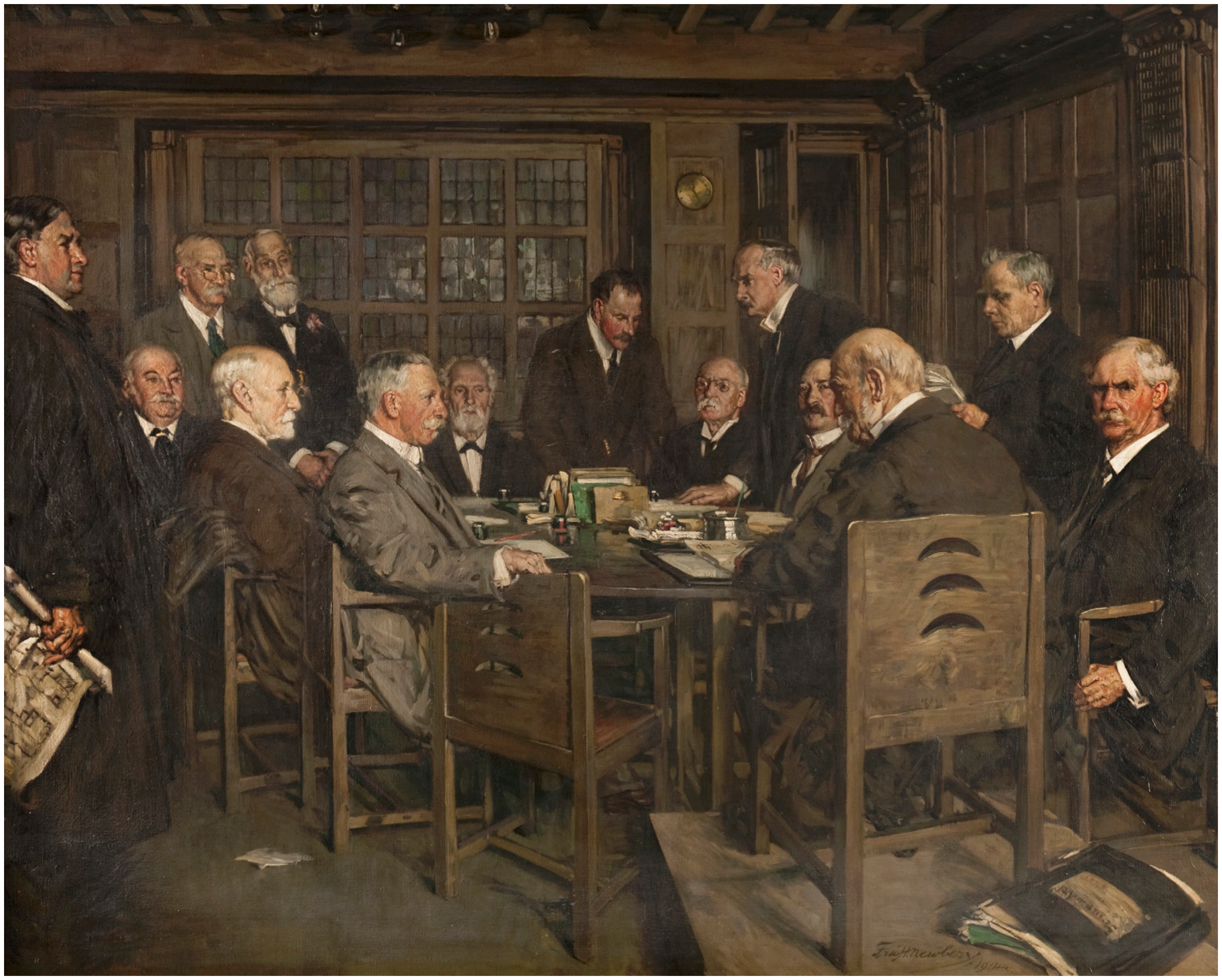


RENFREW STREET





The Building Committee of the Board of Governors of the Glasgow School of Art
Francis H. Newbery, 1914

On Drawing

Brian Carter

"Drawings and tracings are like the hands of the blind touching the surfaces of the face in order to understand…" [1]

According to the portrait painted by Francis H. Newbery in 1914 Charles Rennie Mackintosh was no longer that turn-of-the-century dandy caught in a photograph taken a few years earlier. Rather he was a portly fellow in a voluminous black coat who carried drawings.

Mackintosh's drawings were wide-ranging. The seemingly endless flow included field sketches that used lines economically to save time while effectively recording buildings in Campden and Lyme Regis and the towers of Merriott Church and Maybole Castle. He produced fine watercolours of wishbones, the 'Harvest Moon' and Glasgow Cathedral at sunset, drawings of furniture for cabinetmakers, delicate images of flowers, heavy blocks of text and stark monochrome perspectives made up of dense black line-work that thrust buildings into dramatic weather, city streets and wild nature. Seen alongside more predictable plans, sections and elevations of buildings that were drawn in pencil and ink and hand coloured by the architects of the time, they reveal an acute sense of observation and impressive artistic skills. Like the drawings of Mackintosh's colleagues in Europe and his contemporary in the New World, Frank Lloyd Wright, they project a remarkable energy and exuberance.

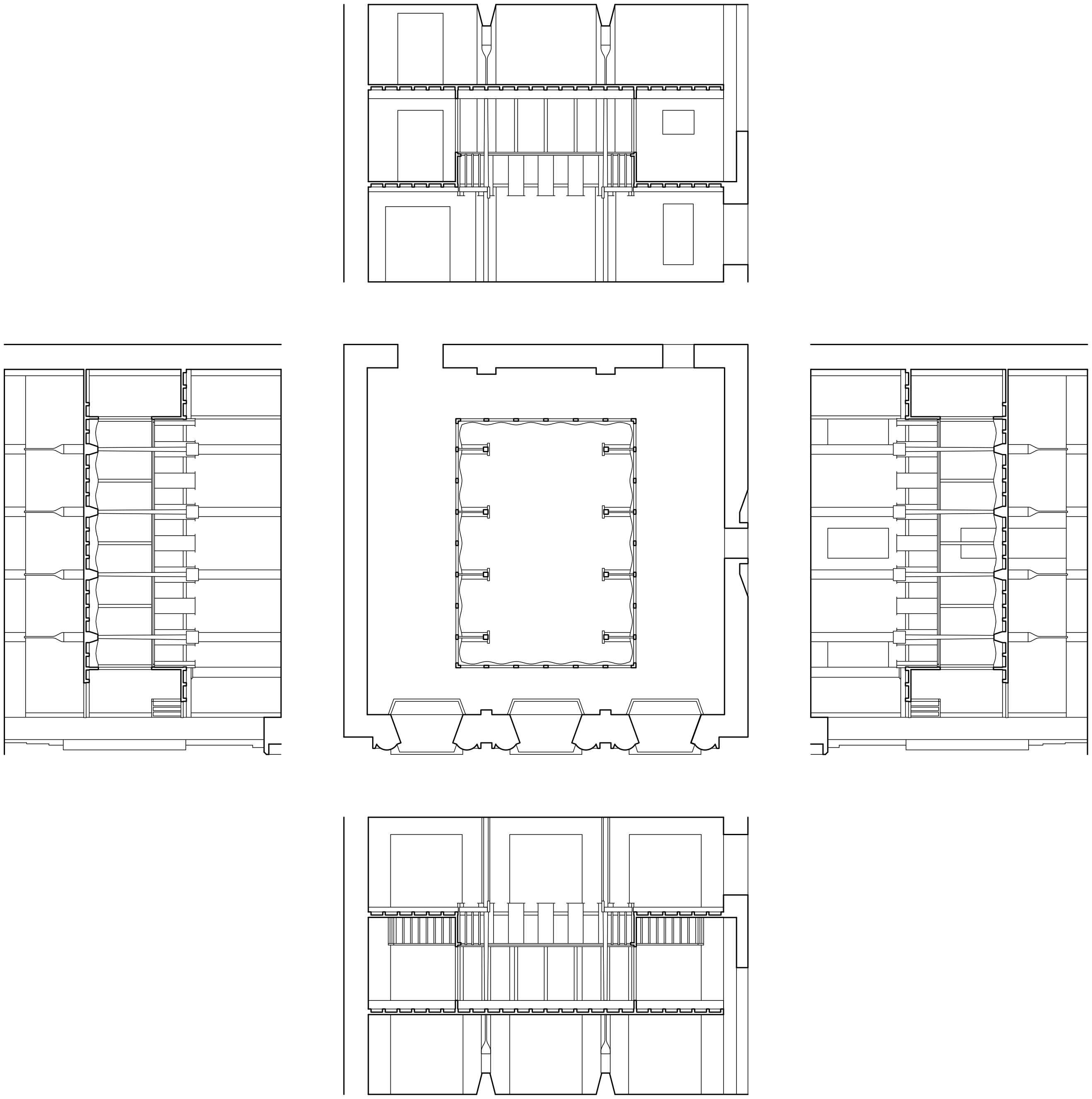
Drawings of Hill House outline a plain walled building under a dark sky. The house, defined by tall chimneys and strategically placed windows above a stone base that sits firmly on the crown of a hill, is surrounded by strange and unlikely trees. It is a design that Mackintosh described as "*not an Italian Villa, an English Mansion House, a Swiss Chalet, or a Scottish Castle*" but "*a Dwelling House*".[2] This architect's drawings, and that statement, highlight an urgent search for the modern – one that was propelled through his later drawings and ideas for the Glasgow School of Art.

If drawing enables architects to explore ideas then drawings also make it possible to project those ideas into reality. In discussing why architects draw, Rafael Moneo focused attention on the overwhelming influence of the image in contemporary architecture and the consequent emphasis on external appearance that prevails. Mourning the demise of the drawing he suggests that, as a result, material is losing its significance. We are, Moneo has commented, "*moving more and more to a world of phantoms than a world of materiality*".[3]

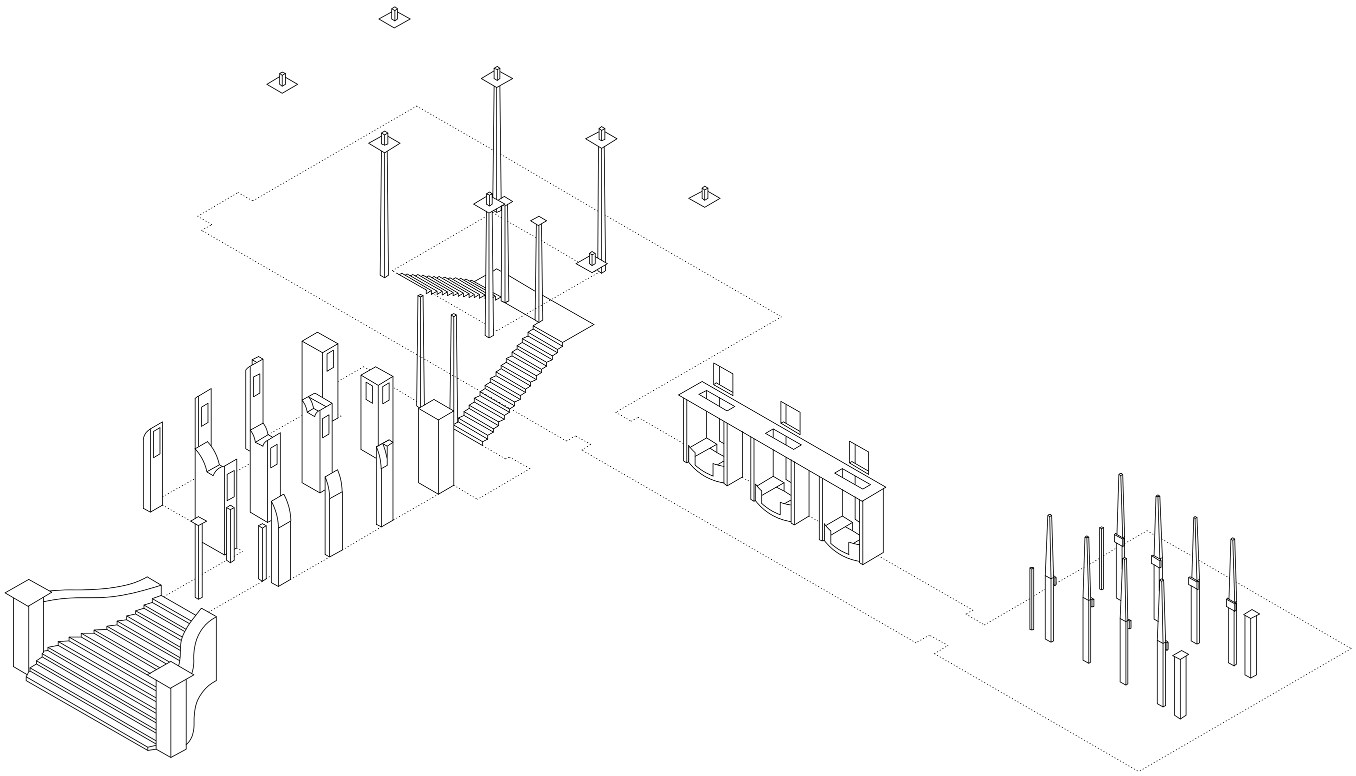
The new drawings of the Glasgow School of Art that have been specially prepared by students for this book focus on both phantoms and materiality. They locate the building alongside contours and the city grid, trace a lost library, map the cutting of stone and set out the details of timber insertions. By examining the anatomy of the building these new forensic studies uncover details and offer fresh insights. Ironically, they focus on materiality in places where material is suddenly and shockingly absent.

In sharp contrast to the customary sequences of architecture, where ideas are first drawn and then subsequently transformed into reality by the use of other drawings, these new views scrutinise and record the building that existed as well as that which still exists. They reveal details that were hidden and assemblies that are not obvious and, in doing so, trace the worlds of phantoms, record ghostly forms and describe current materiality at the Glasgow School of Art.

- Brian Carter



Library
Plan and Unfolded Internal Elevations



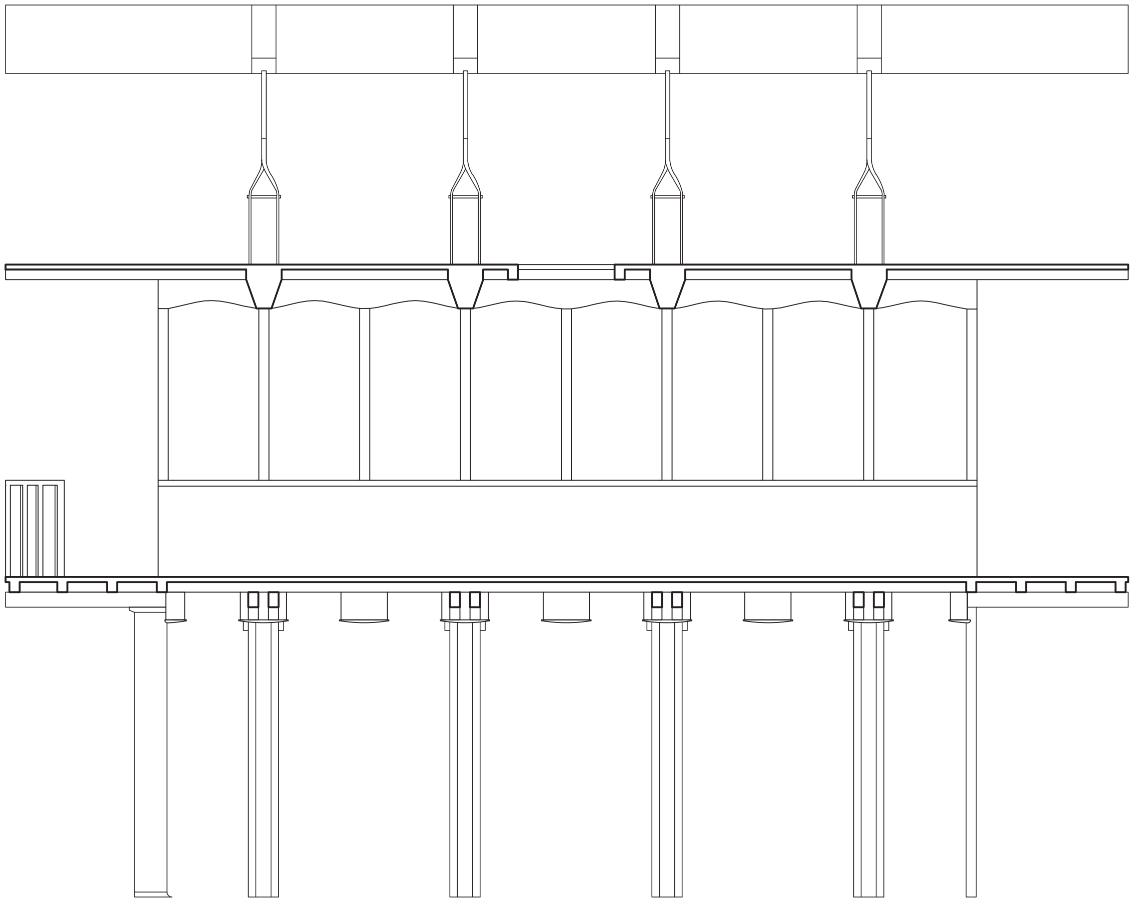
Encounters with Columns
From the Street to the Library

Drawings

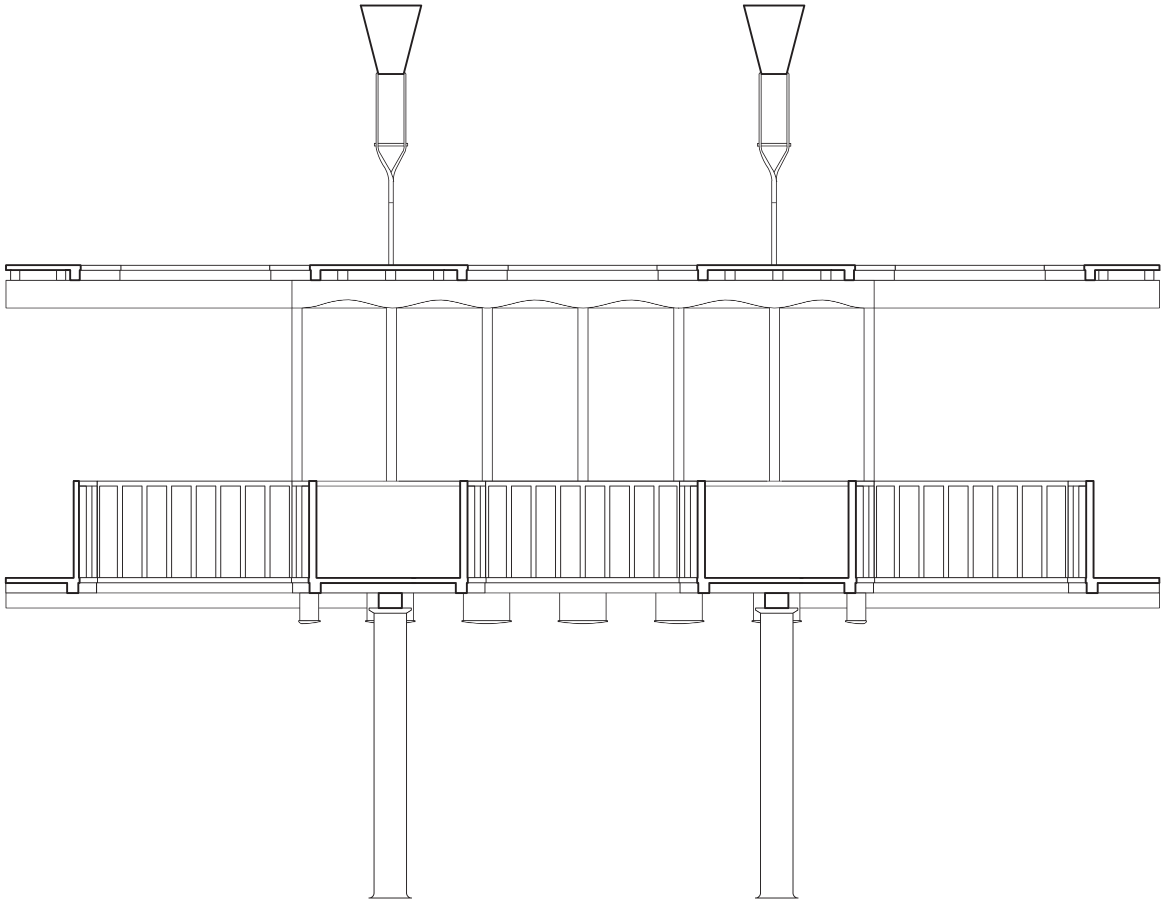
The following drawings of the Library at the Glasgow School of Art were conceived as if the timber structure were removed from its masonry shell. The drawings may be seen as graphical tools devised to illustrate the relationship between individual components and how they are brought together to form a coherent whole.

When experienced three dimensionally, in reality or through drawn analysis, the construct of the library is a delight in visual complexity and linear density. When studied two dimensionally, in plan, section or elevation, the reader is offered a moment of quiet in which to contemplate and begin to understand the creative mind of Charles Rennie Mackintosh.

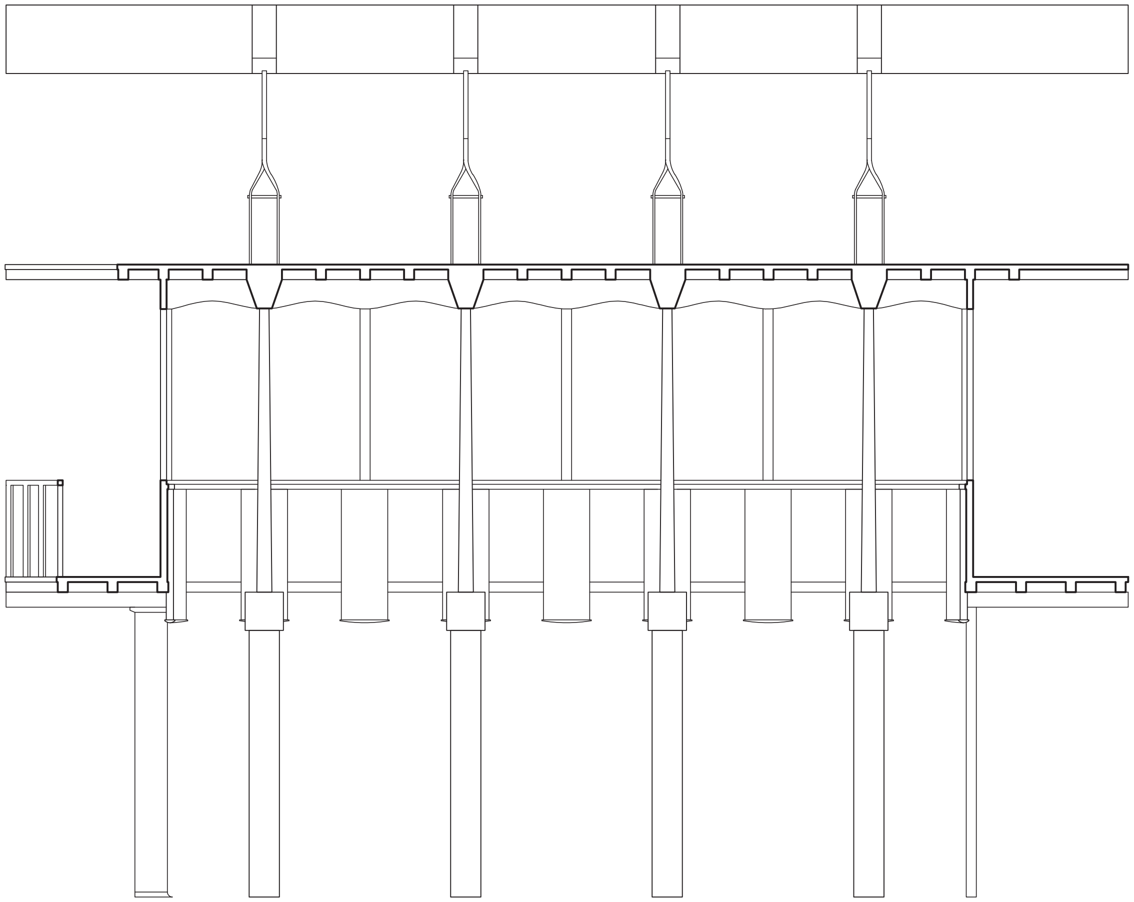
While these drawings have the potential to provoke architectural thought, they are abstractions that reveal the mathematical nature of the structure and provide a lesson in composition and careful symmetry.



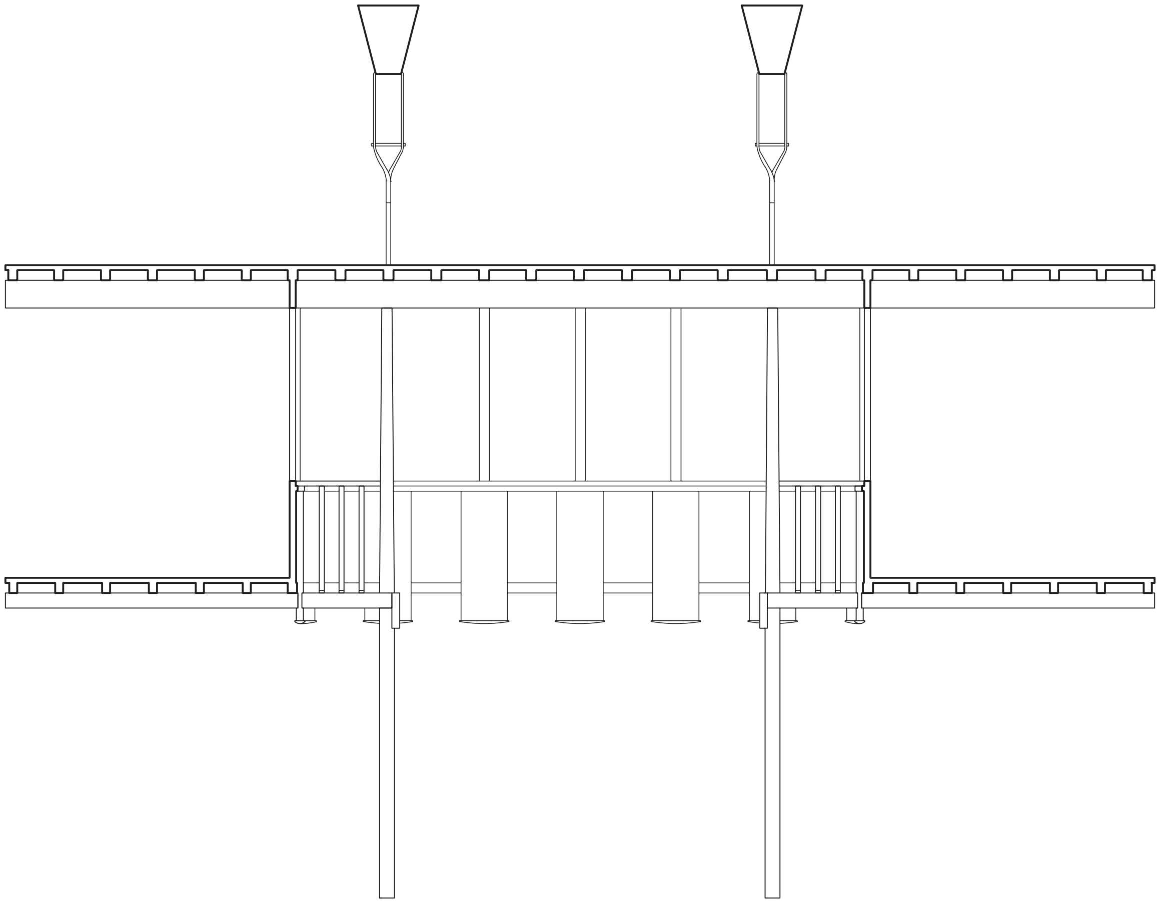
Colonnades + Balustrades 1
Section through the Gallery



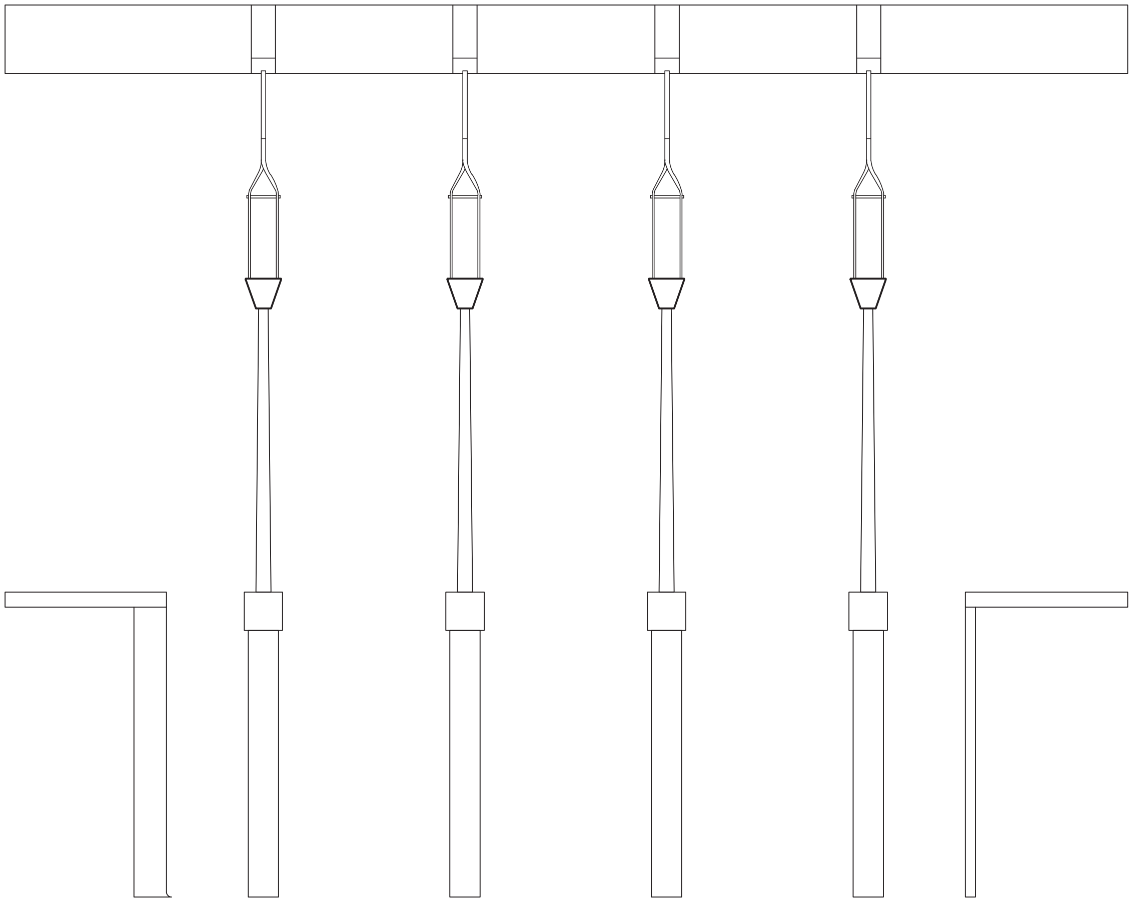
Colonnades + Balustrades 2
Section through the Gallery



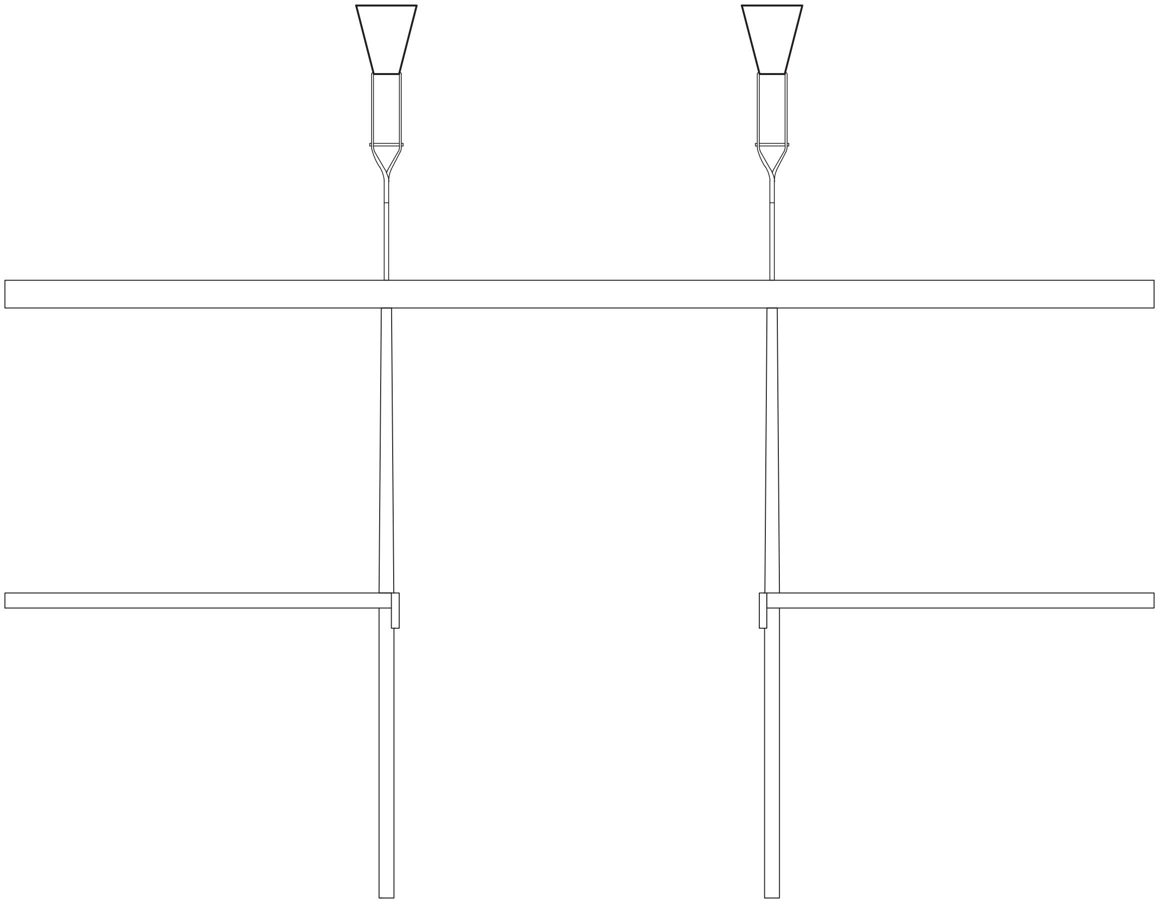
Colonnades + Balustrades 3
Section through the Void



Colonnades + Balustrades 4
Section through the Void

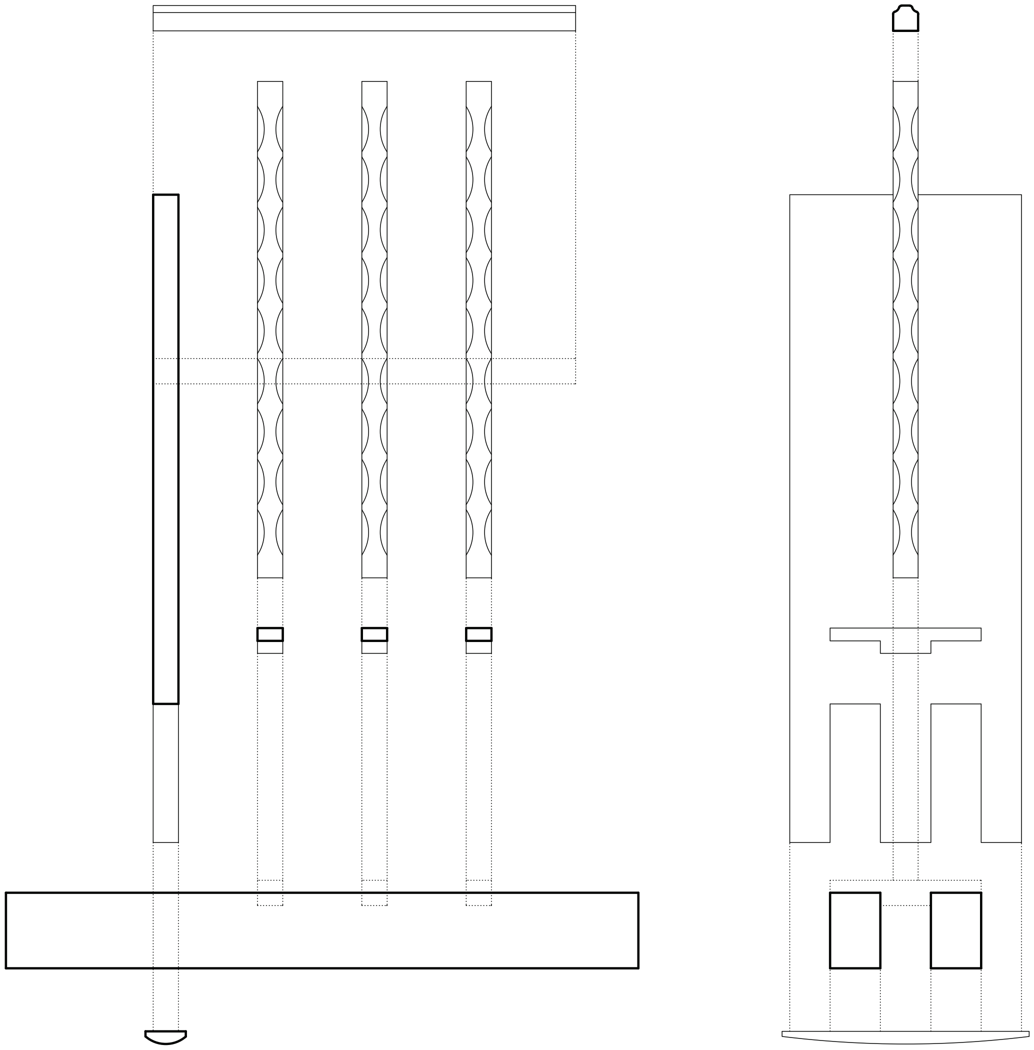


Column, Beam + Twisted Hanger 1
Section through the Void

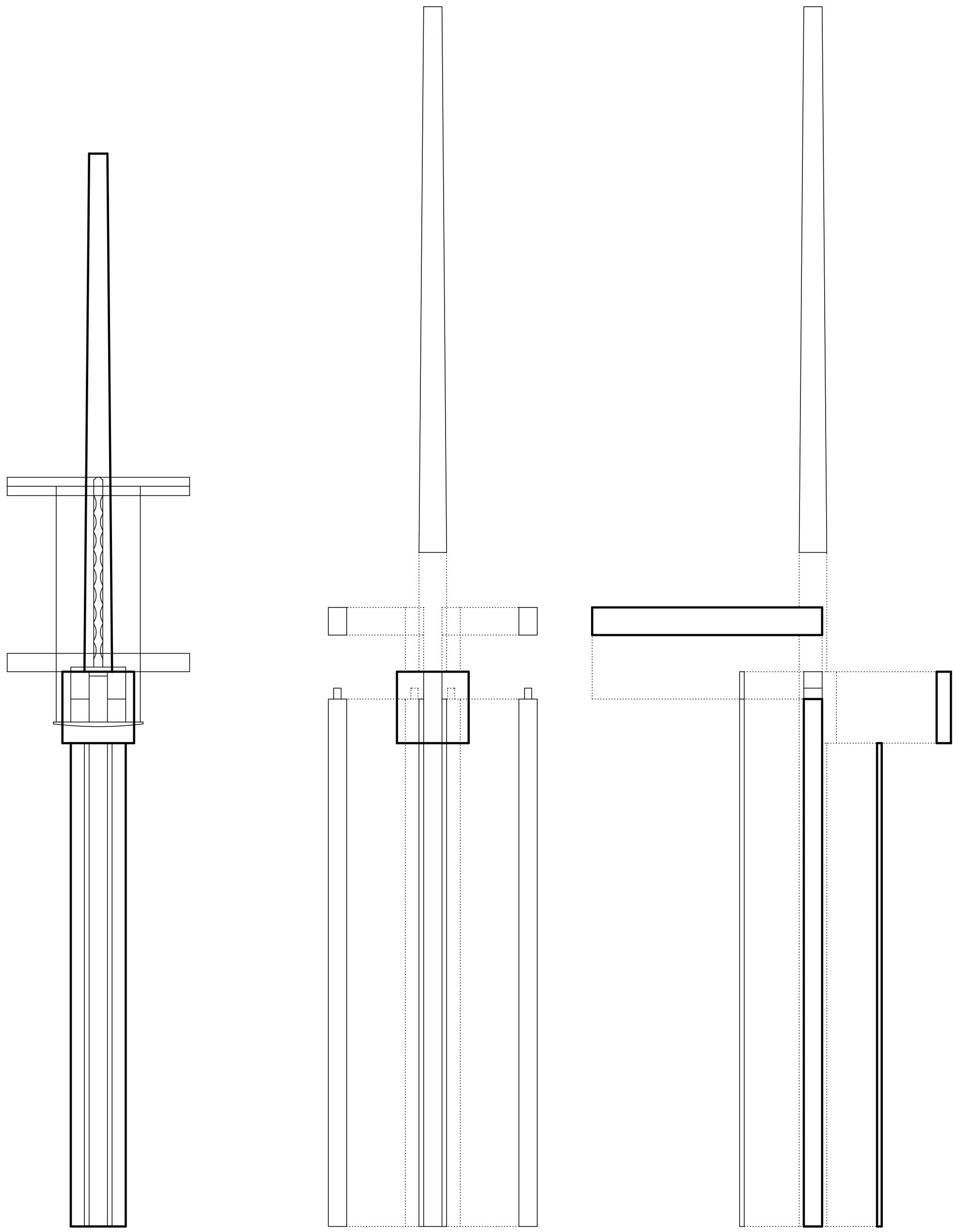


Column, Beam + Twisted Hanger 2

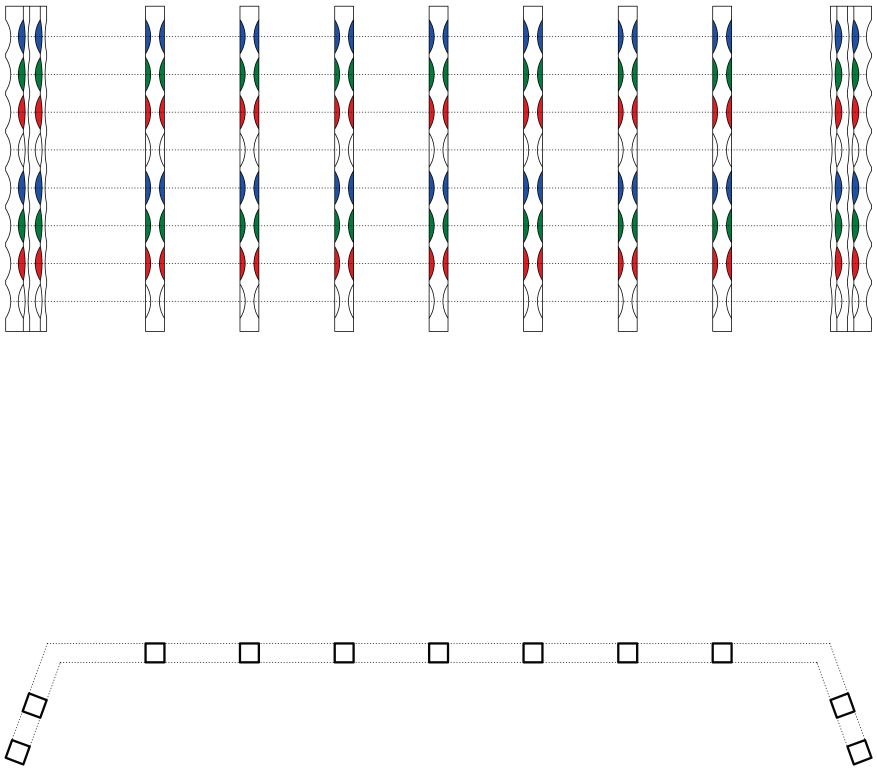
Section through the Void



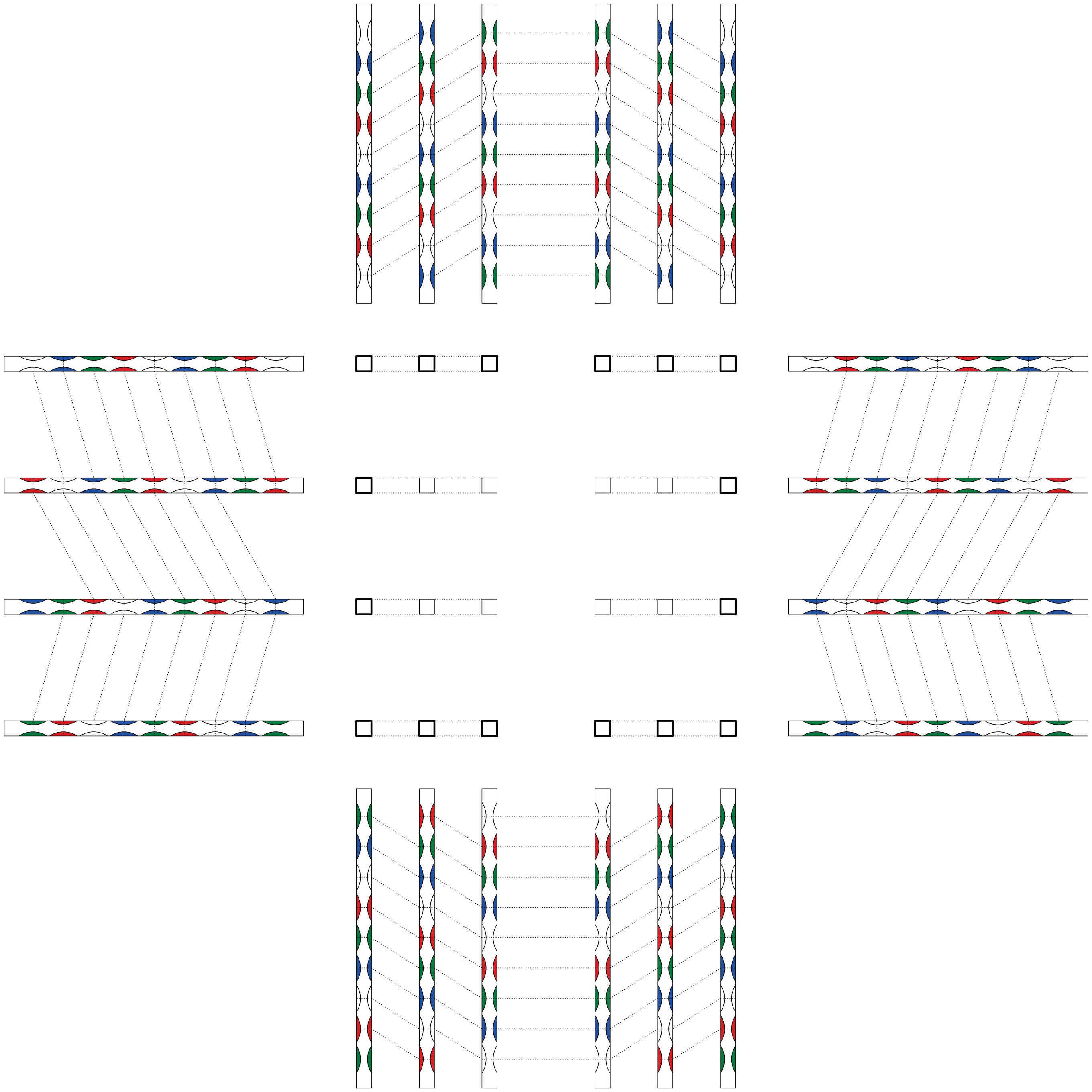
Locking + Resting
Gallery Spindle within Void



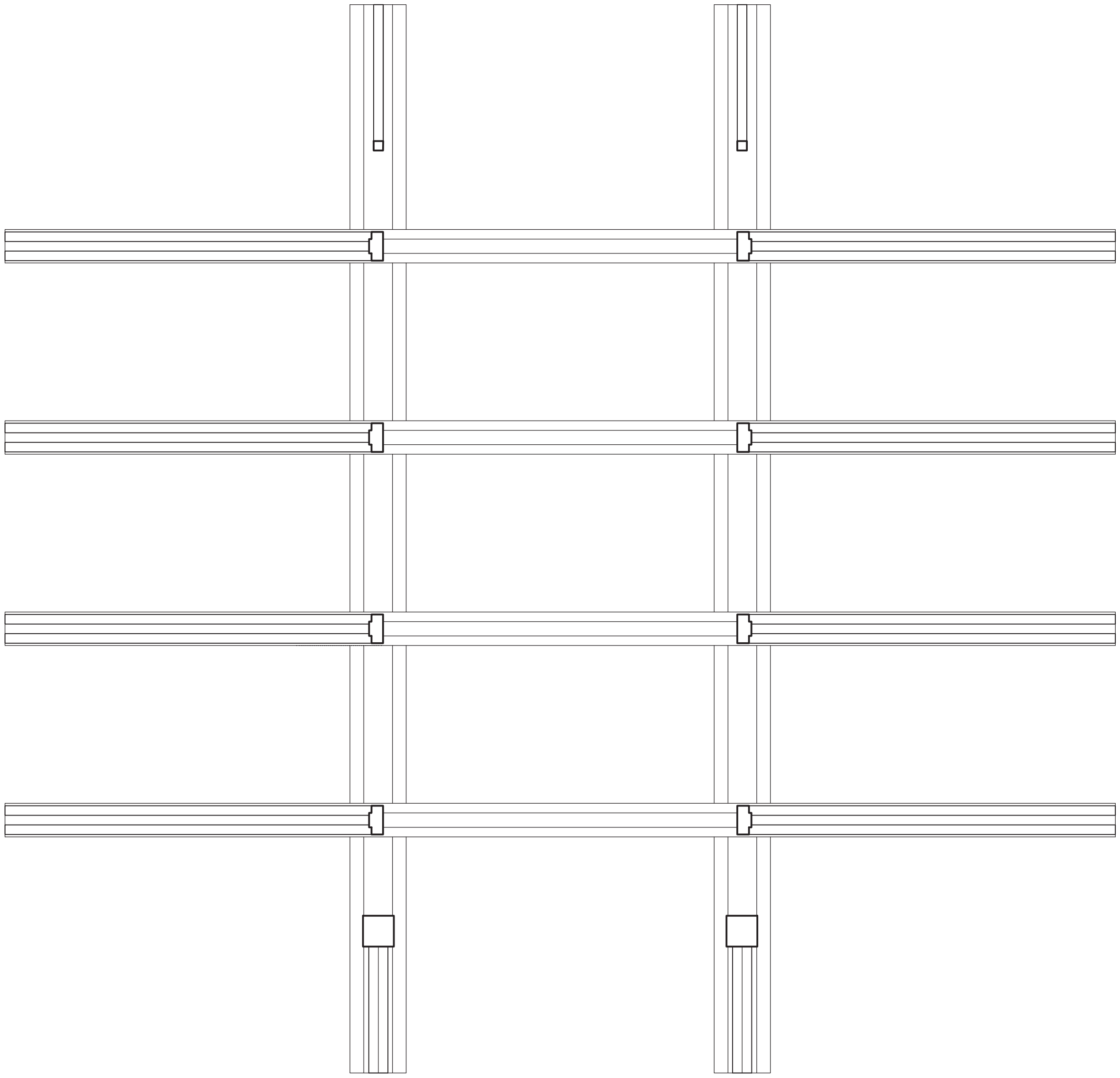
Locking, Resting + Uniting
Column Assembly



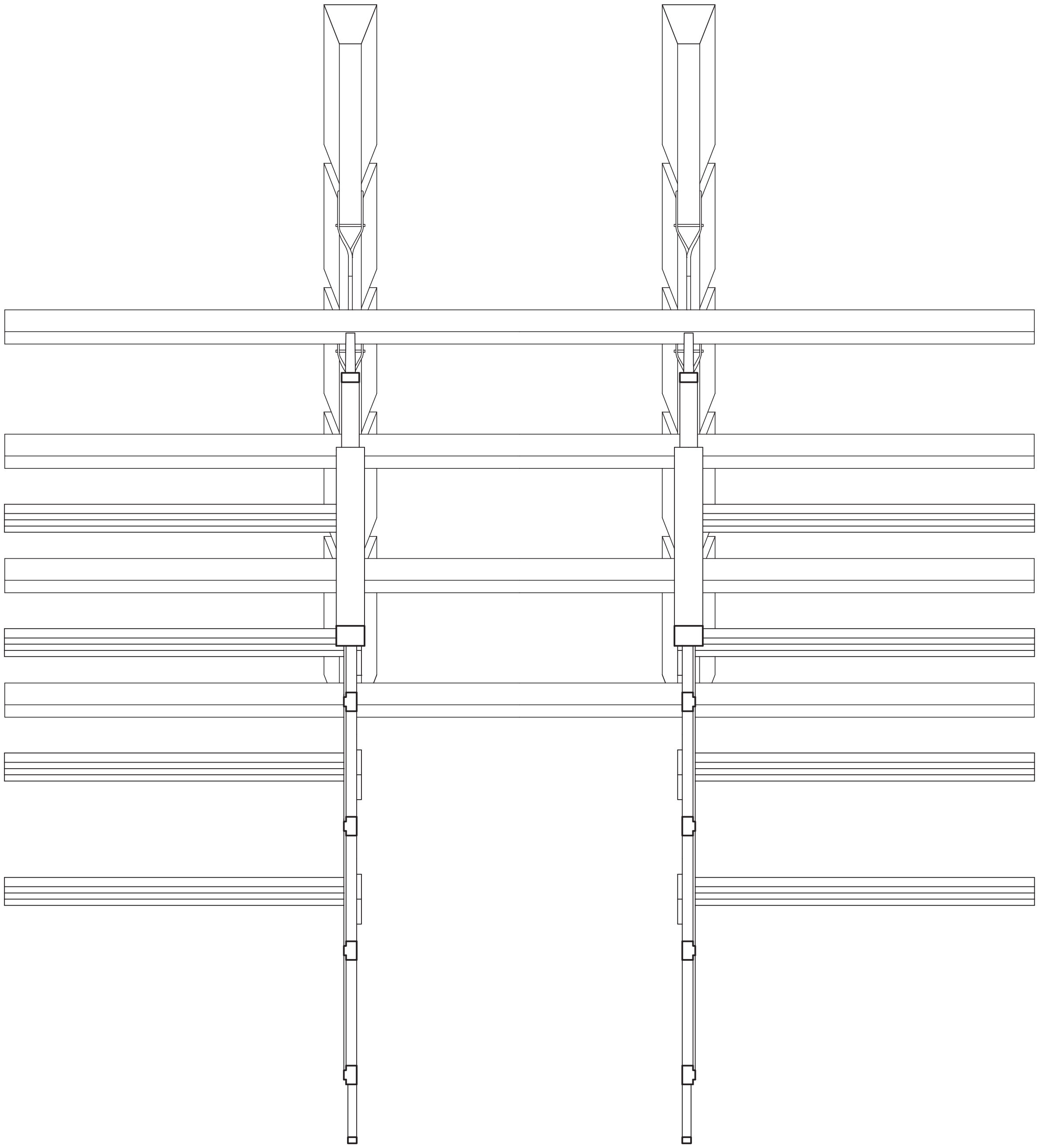
Sequential Chamfer I
Gallery Spindle at Oriel Window



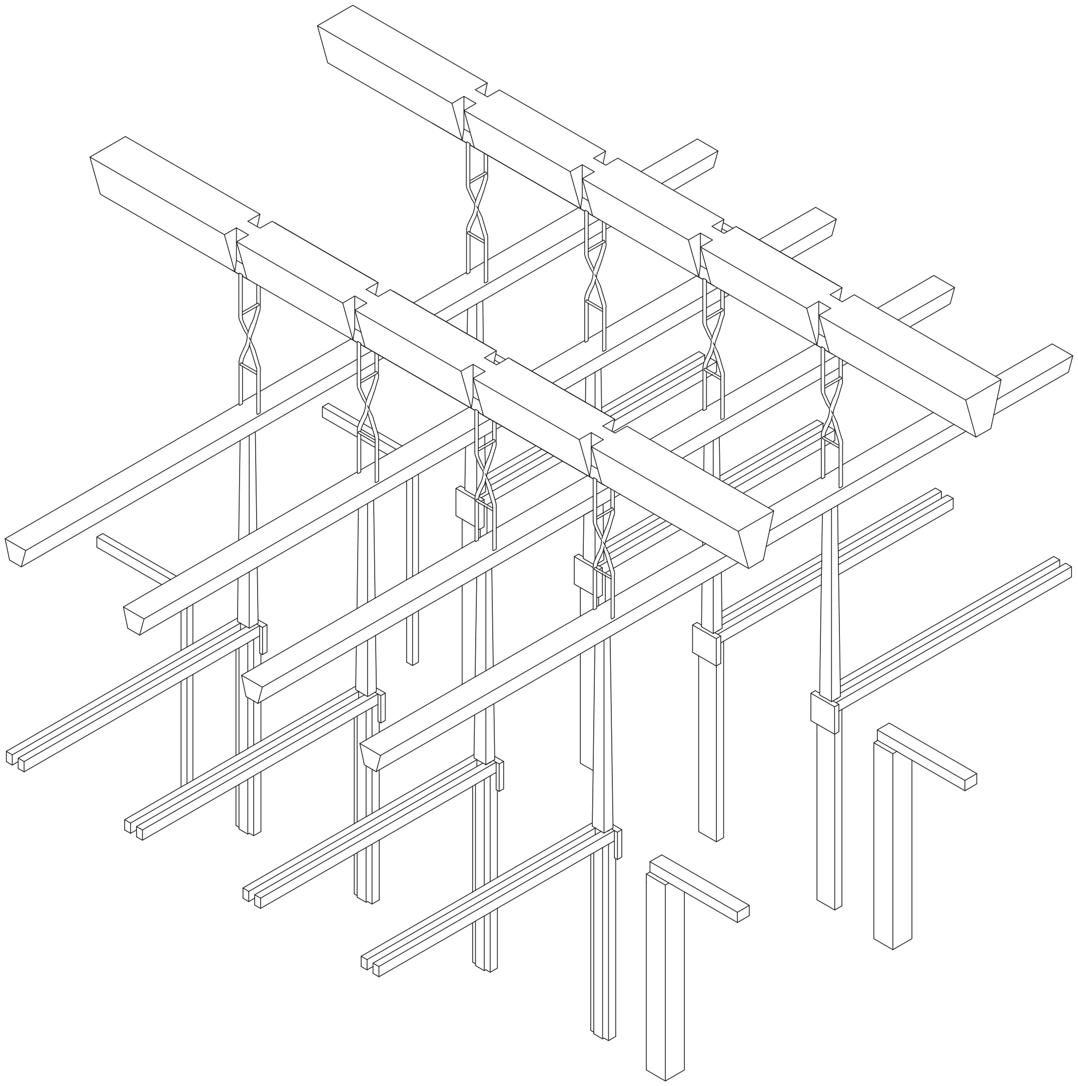
Sequential Chamfer 2
Gallery Spindle within Void



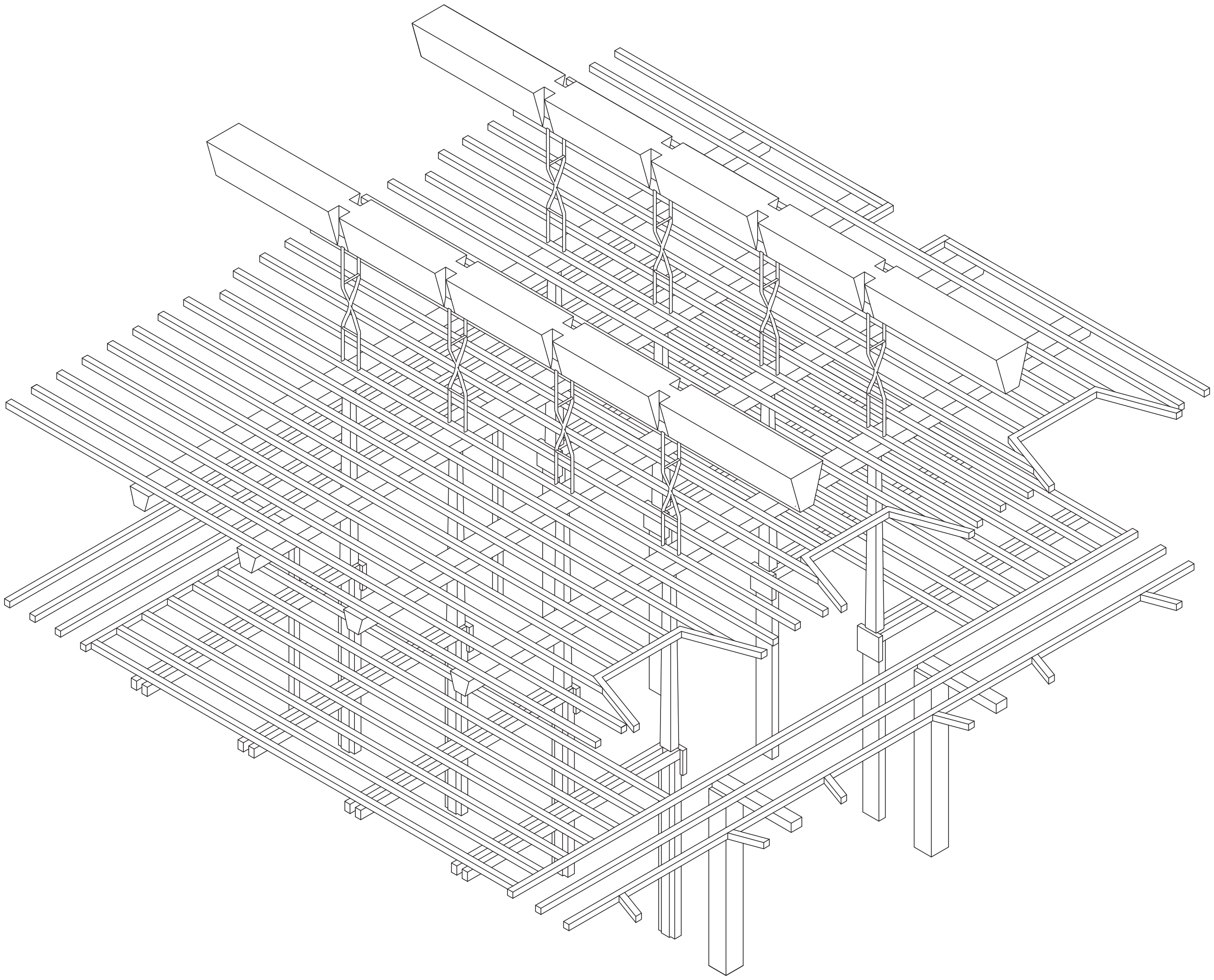
Composite Construction I
View of Primary Structure from Below



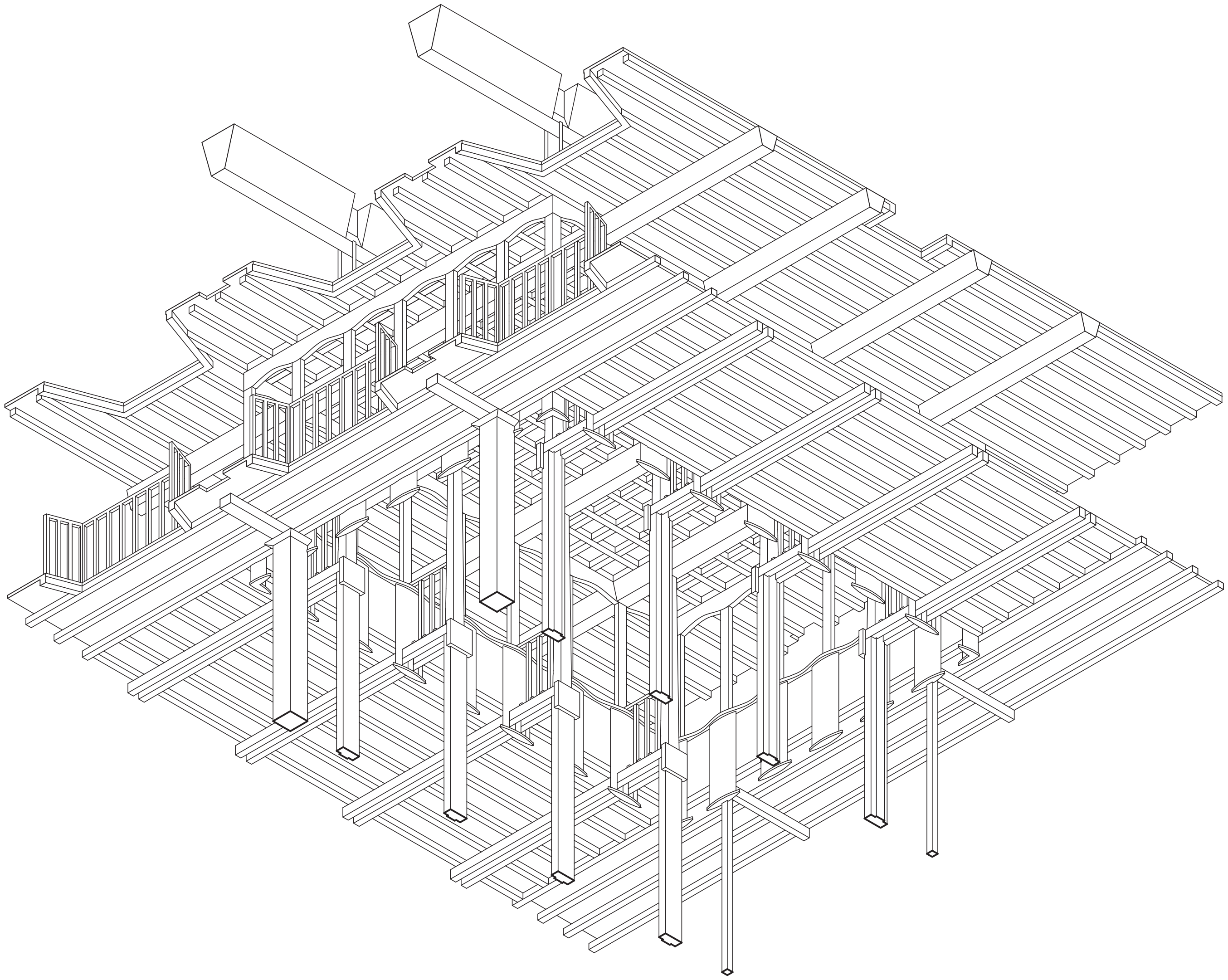
Composite Construction 2
Tilted View of Primary Structure from Below



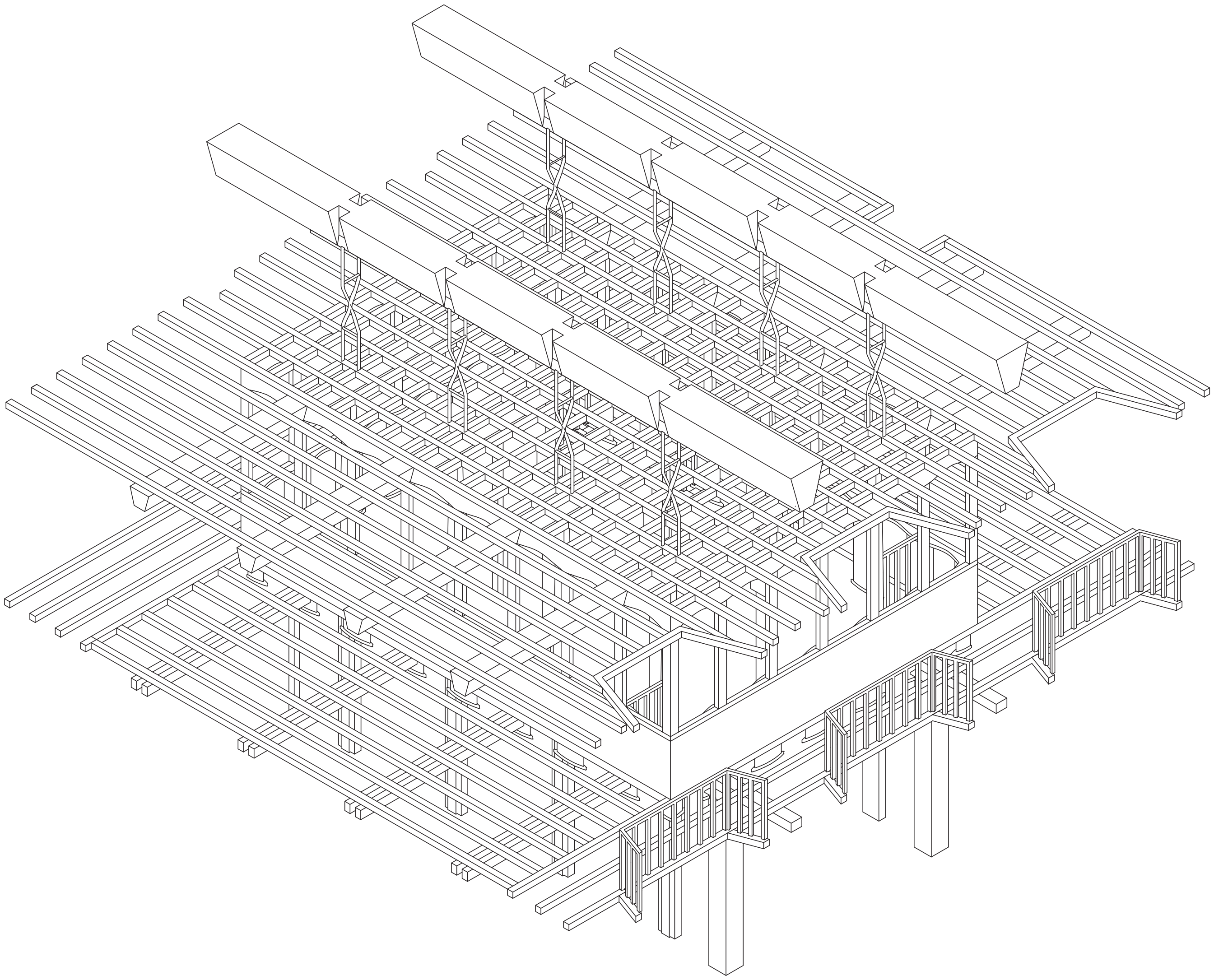
Support + Suspension 1
Isometric with Primary Structure



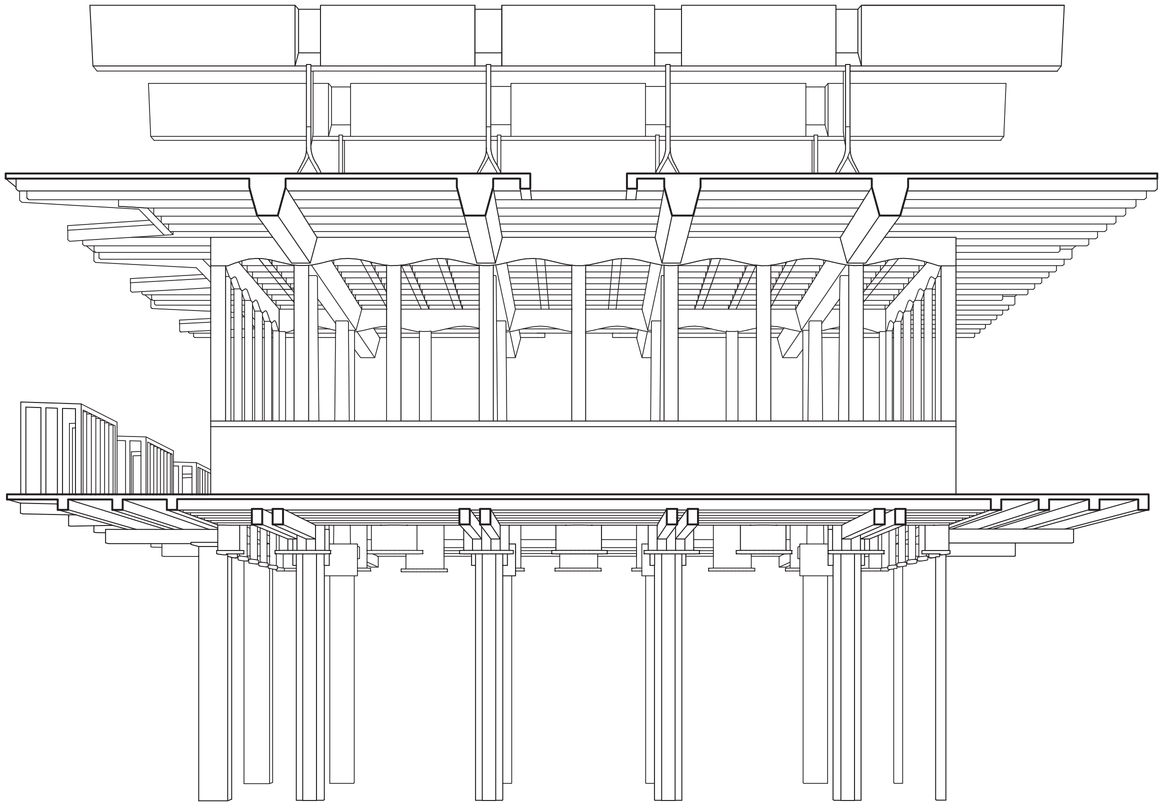
Support + Suspension 2
Isometric with Floor Construction



Layered Lattice I
Isometric from Below of Timber Structure

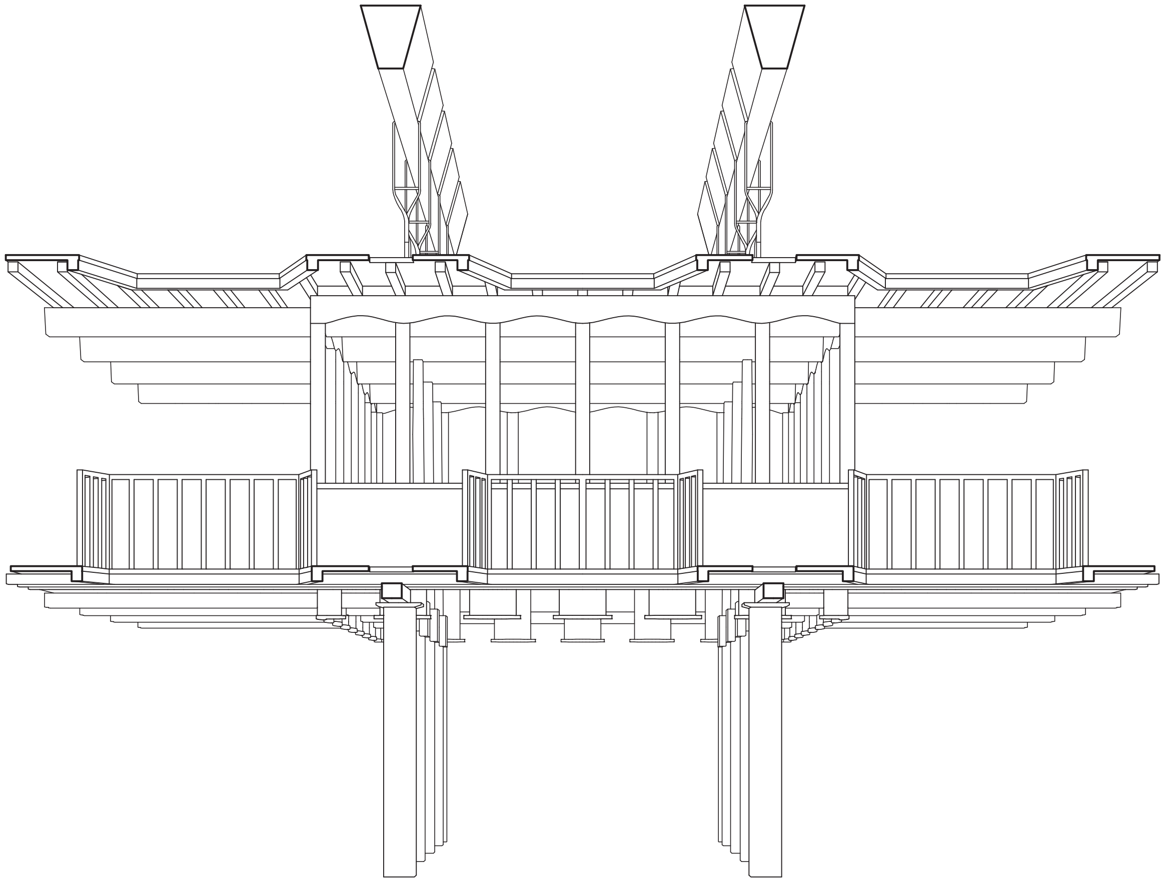


Layered Lattice 2
Isometric with Decorative Timber

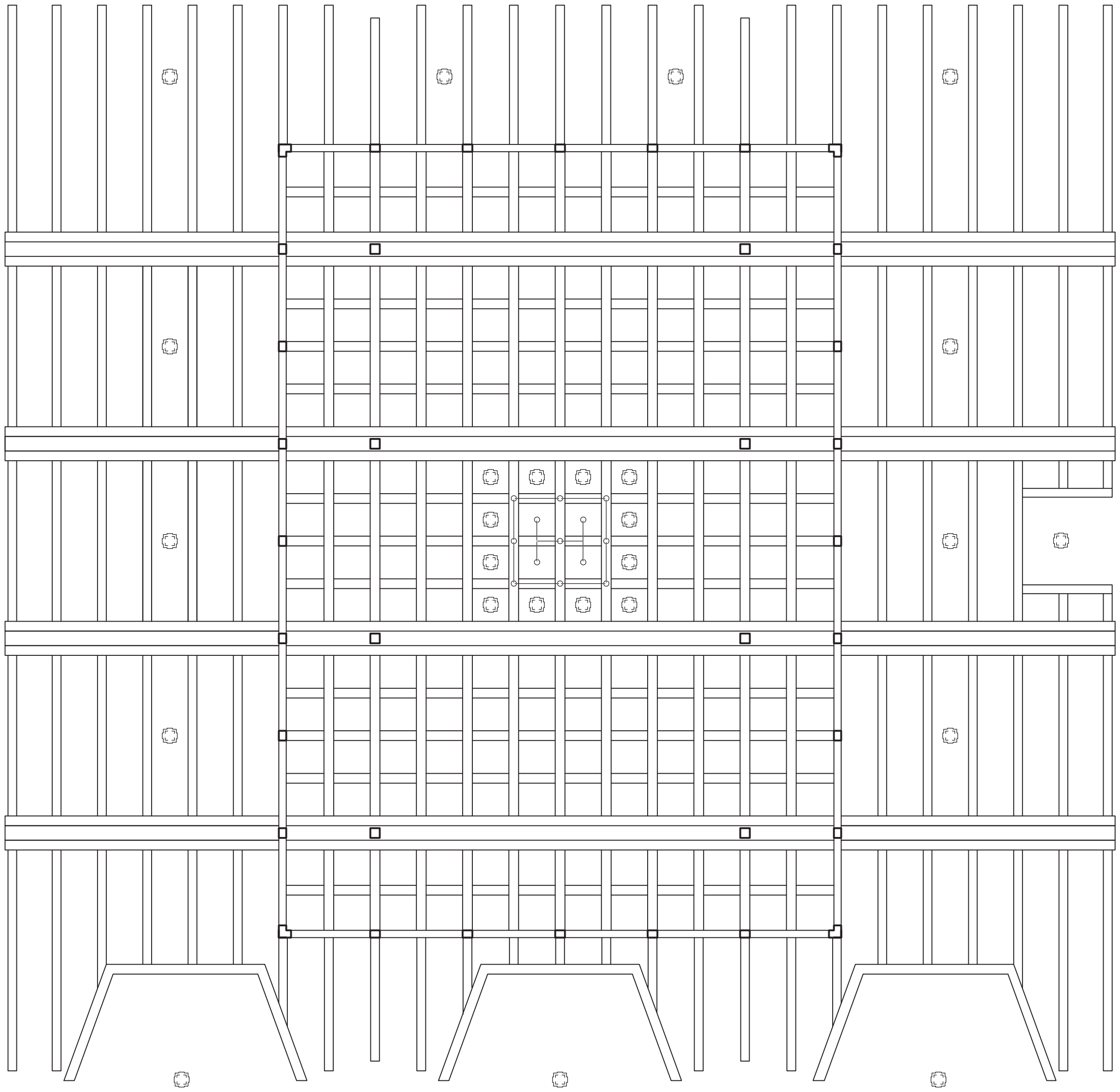


Pavilion I

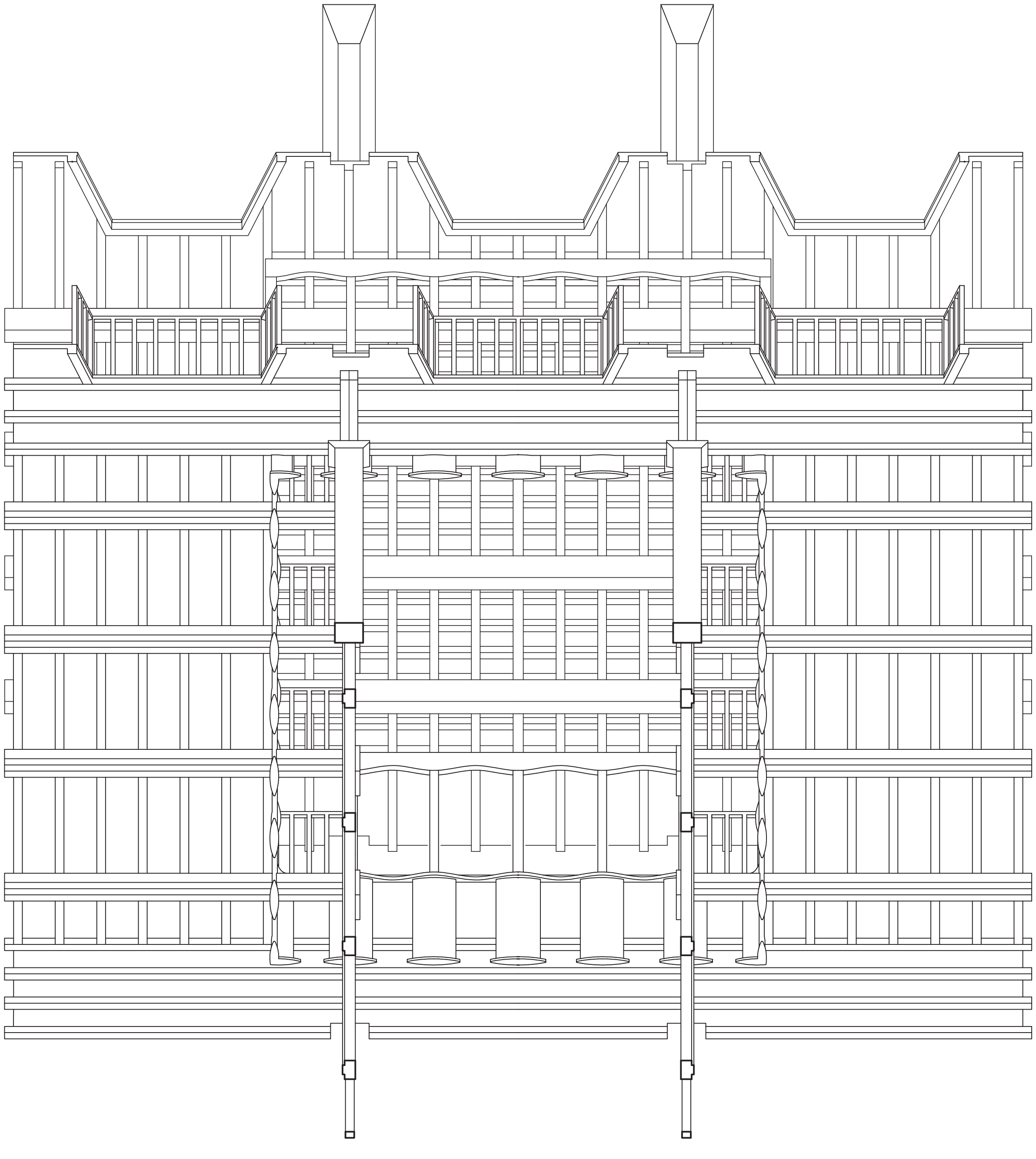
Sectional Perspective of Timber Insert



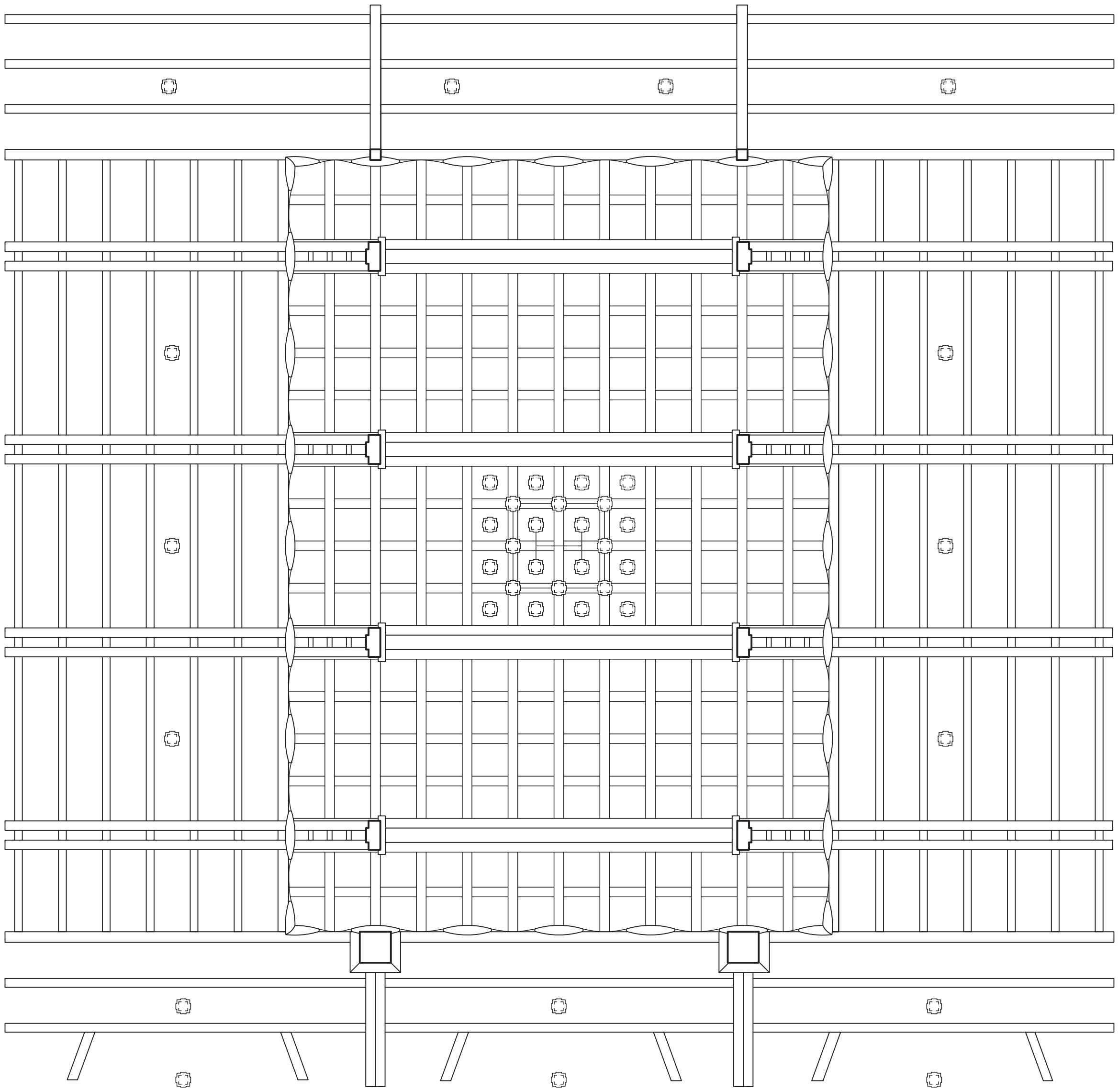
Pavilion 2
Sectional Perspective of Timber Insert



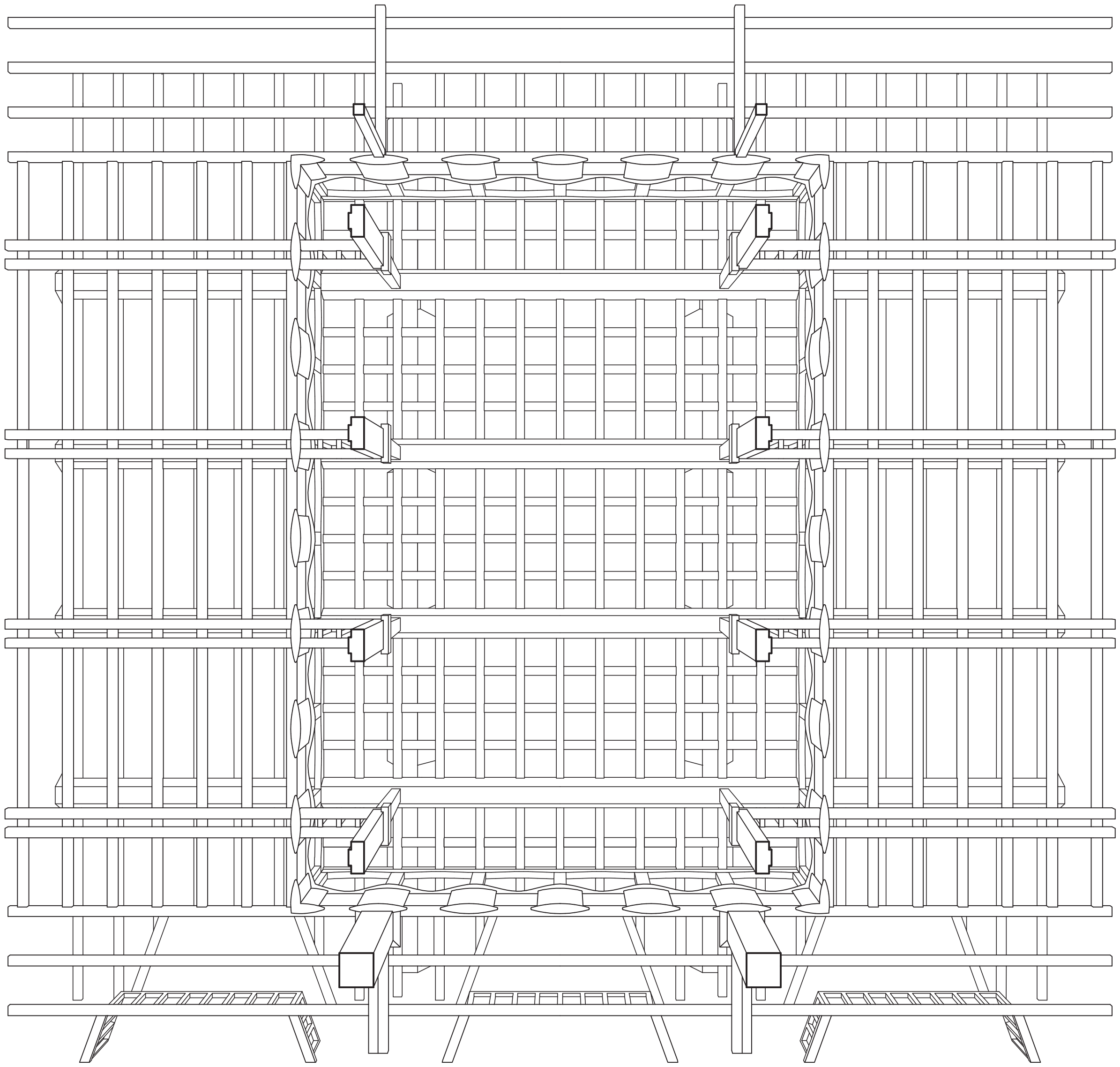
Grids I
First Floor Plan from Below



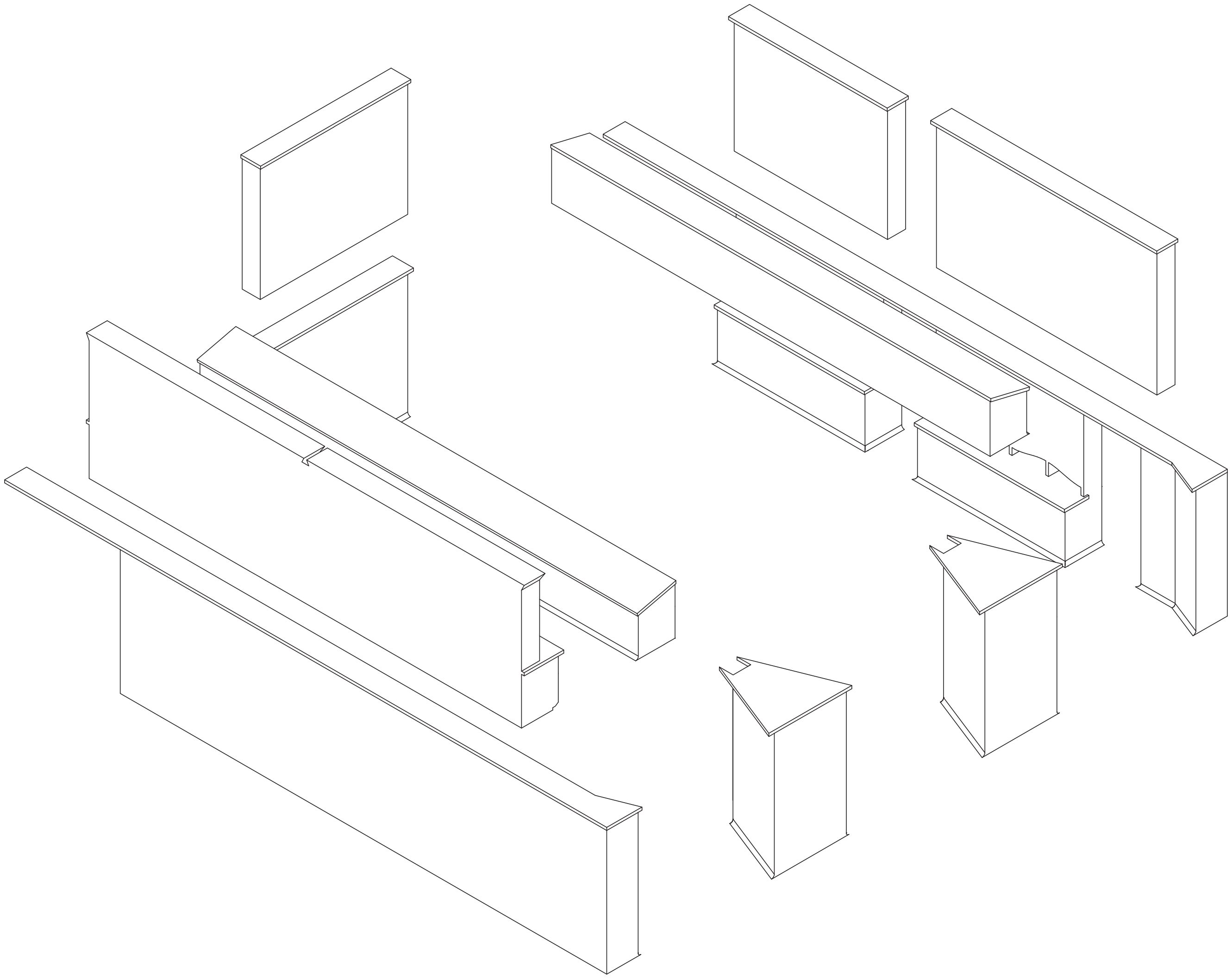
Layered Grids
Tilted View from Below



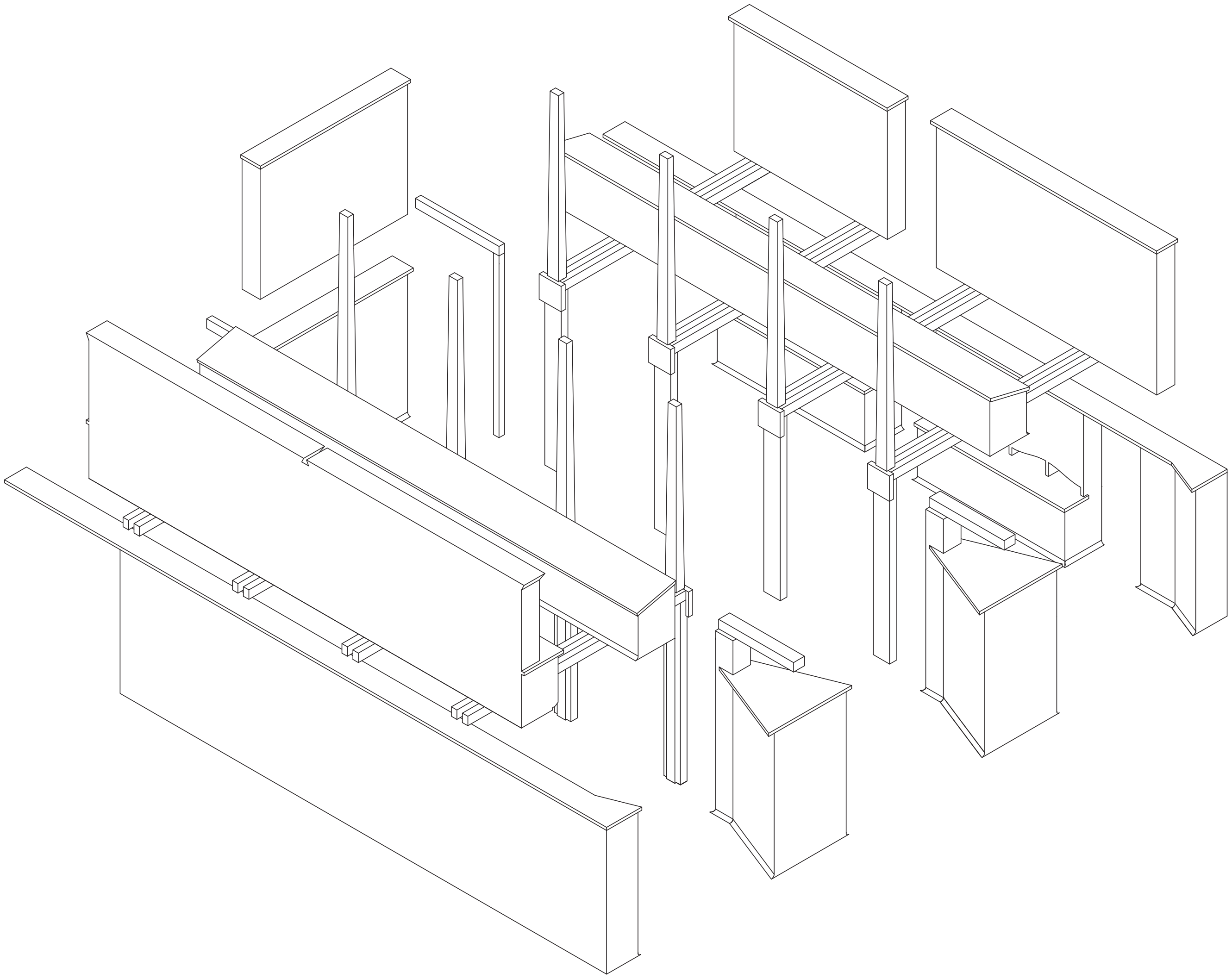
Grids 2
Gallery Plan from Below



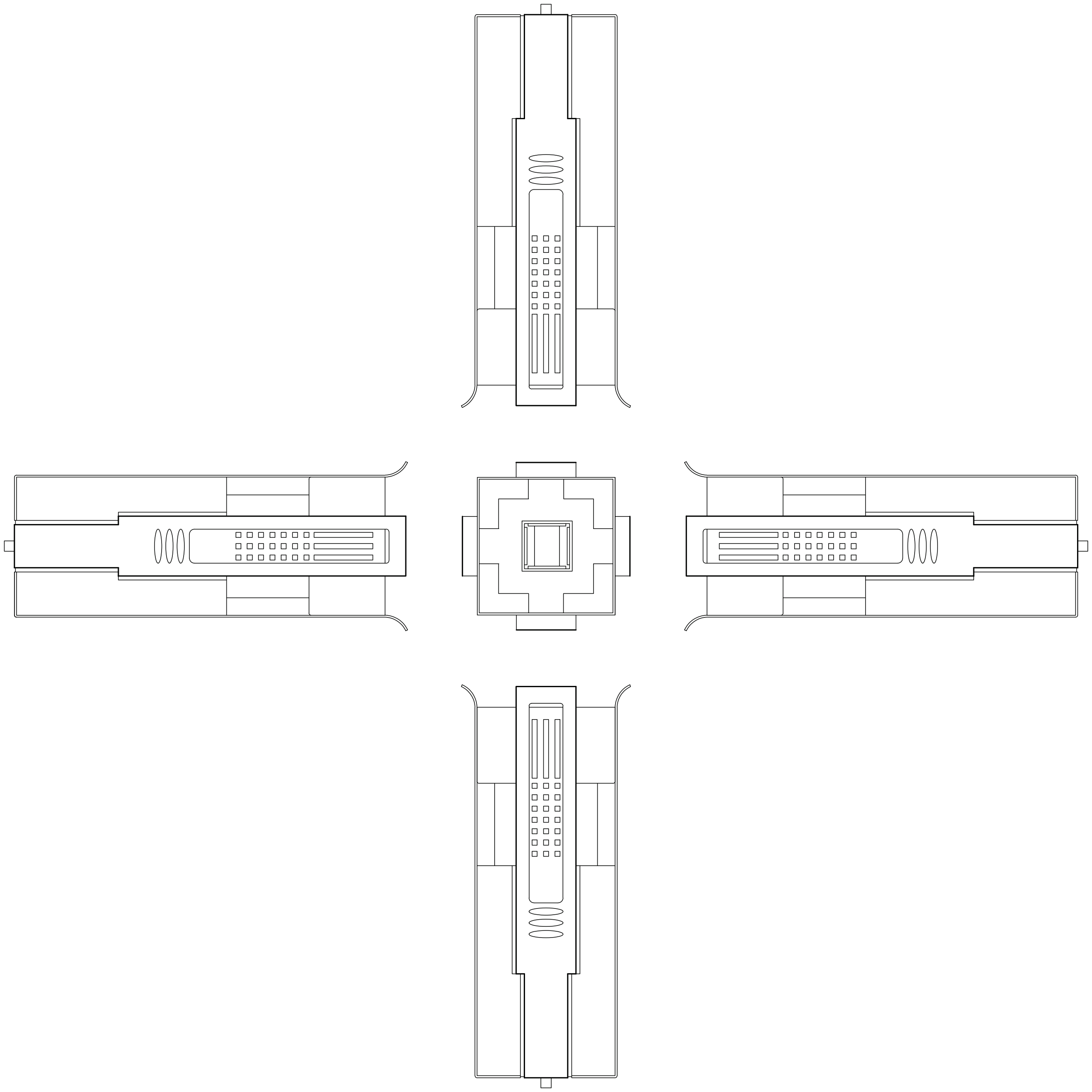
Complexity in Density
Perspective of Grids from Below



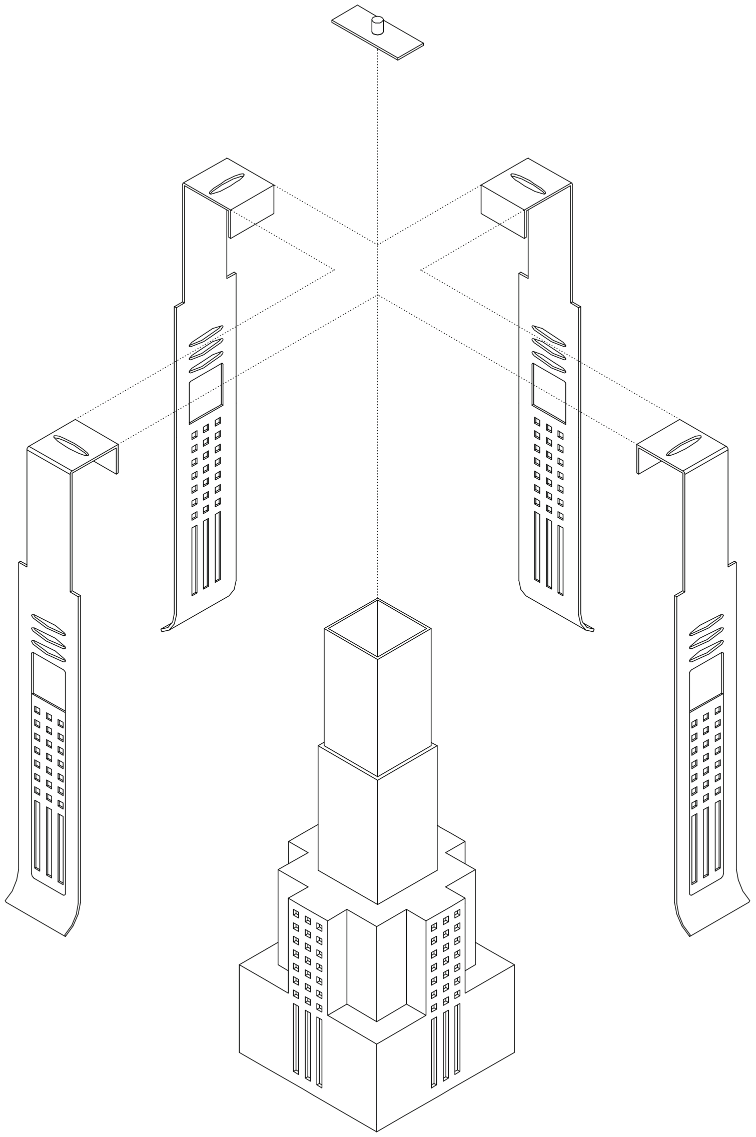
Repository 1
Cabinets



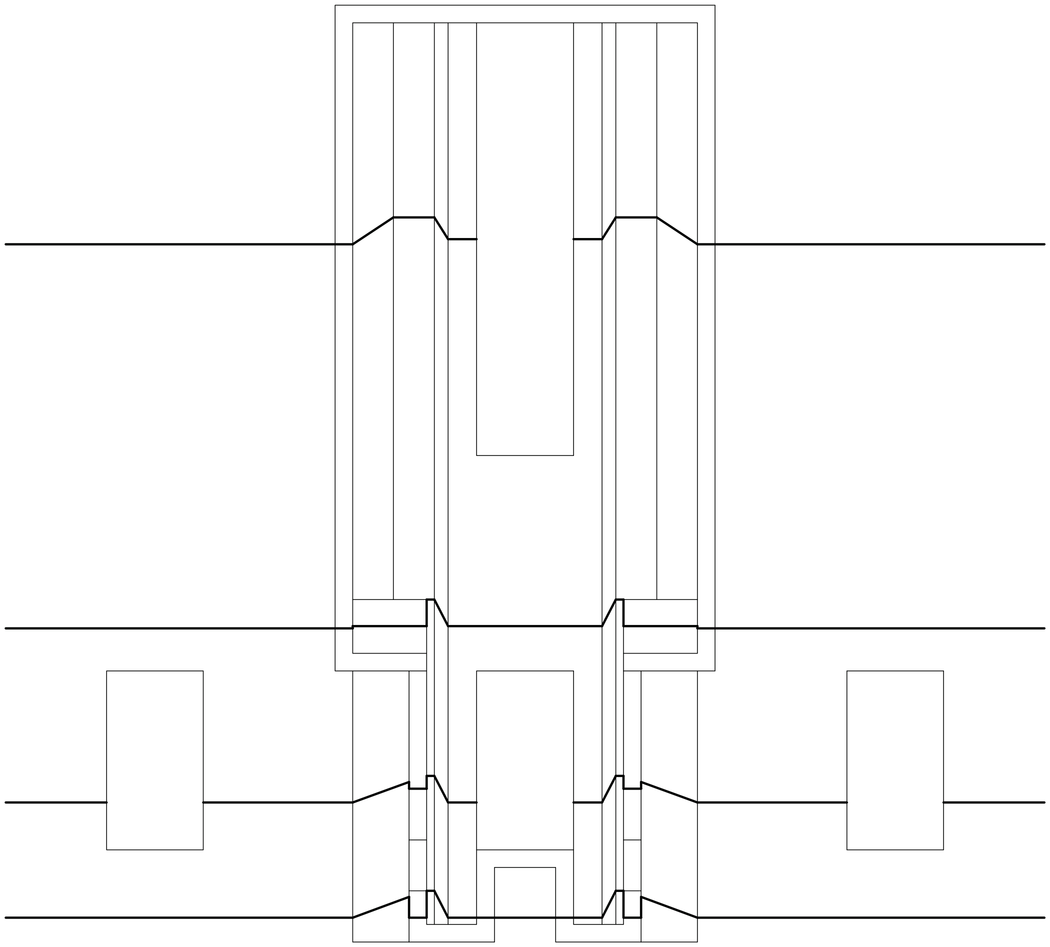
Repository 2
Cabinets Responding to Structure



Illumination I
Unfolded Lamp within Void

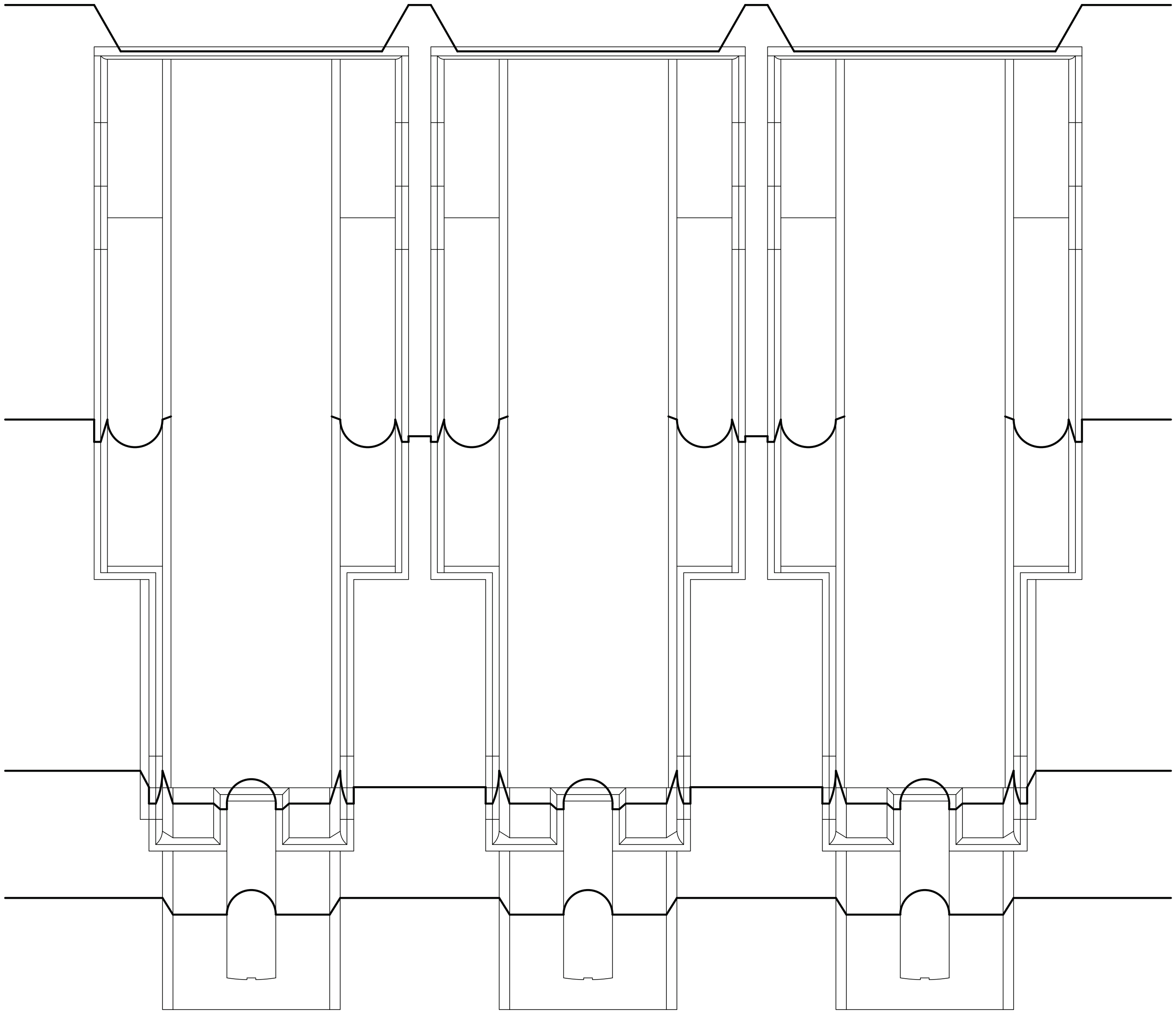


Illumination 2
Assembly of Lamp within Void



Stone Mapping I

Plan over Elevation of Inset Window to South



Stone Mapping 2
Plan over Elevation of Oriel Window to West

The Measure of Things

Paul Clarke

Voids agape in stonework, where once fine metal grids held shimmering pockets of sky; dark wooden floors misted grey with a moon dust of fallen plaster; once elegant columns scorched into an elephant skin of charcoal and standing like sentinels outwith gravity, shadows of Callinish. At the centre of this landscape of wreckage, the burnt remains of the library are piled high, like a bonfire that has fallen from the sky. Archaeologists pick through the remnants of the library with forensic diligence: collecting, mapping and measuring each piece of burnt fallout into precise, catalogued and boxed collections. Broken books lie scattered and entangled in the briars of twisted steel straps and burnt shards; they are the only recognisable fragments to signal that this scorched shell was once a library. A library and space deeply embedded in the consciousness of a school, of a city, and of architecture itself. A space you stood in, motionless, and mesmerised, by the delicate light and shadows; a world within a world. The library, an unexpected architectural discovery each time you entered. The building itself a rock set in a high place; there to allow us to navigate how we saw the world; a measure against which all other buildings would be measured.

We had taken it for granted. The library, the centring heart of Mackintosh's masterpiece, mysteriously beautiful and timeless, or so it seemed. But it was lost to us even earlier, before the fire. Its slow abandonment creeping up unnoticed over many years. The role of the library displaced to a more expansive, more efficient space: the banal underbelly of the Bourdon slab. From the height of the west tower in Mackintosh's building, to an indifferent undercroft on the street, the library had fallen. New forms of encounter with knowledge, with the digital, had brought change. The constantly shifting interface of our information age, stripping spaces of their occupation: from social space to social media, we are free to wander in our digital daze. The dialogue with the book; of sitting at a window in a quiet library; an abandoned pursuit. The doors were generally locked, opening only to the steady rhythm of another building tour come to pay homage to an architectural relic; or for the quiet footsteps of a lone researcher or librarian. The space that had once been at the heart of a great 19th century vision of what art education would bring to society, to industry, to creativity, to knowledge, had lost its place: adrift in the digital age.

In the original 1896 brief,[1] the library had hardly warranted a description. There amidst the long list of rooms conceived to follow a system of drawing and observation required by a Government School of Design, and which was based on the South Kensington System,[2] the library was simply described as:

"One school library and reading room with a floor space of from 1000 to 1200 sq.ft." [3]

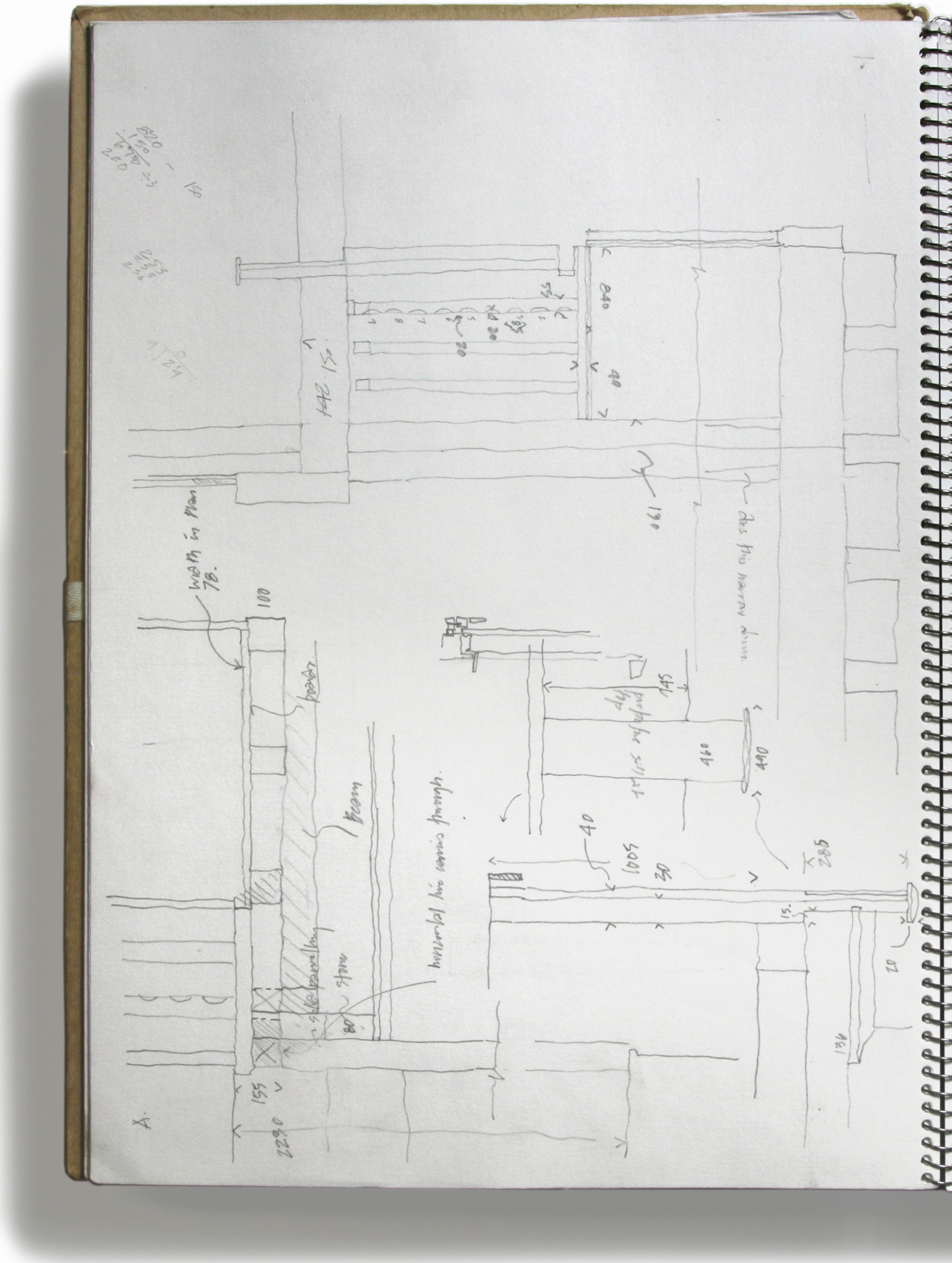
Beyond the physical size of the space to be provided, no other request was made in relation to the library. Studio spaces, however, followed a very detailed programme of sequence, storage and light requirements. The paradox: the shortest description in the brief produced the most inventive architectural space in Mackintosh's imagination. Looking out from within the west tower, across an ever-expanding industrial city, it floated like a vessel within the protective shell of a stone lookout. High above the city horizon, a hidden delicate wooden ship, holding onto its books like the treasured volumes of the exiled Prospero.[4]

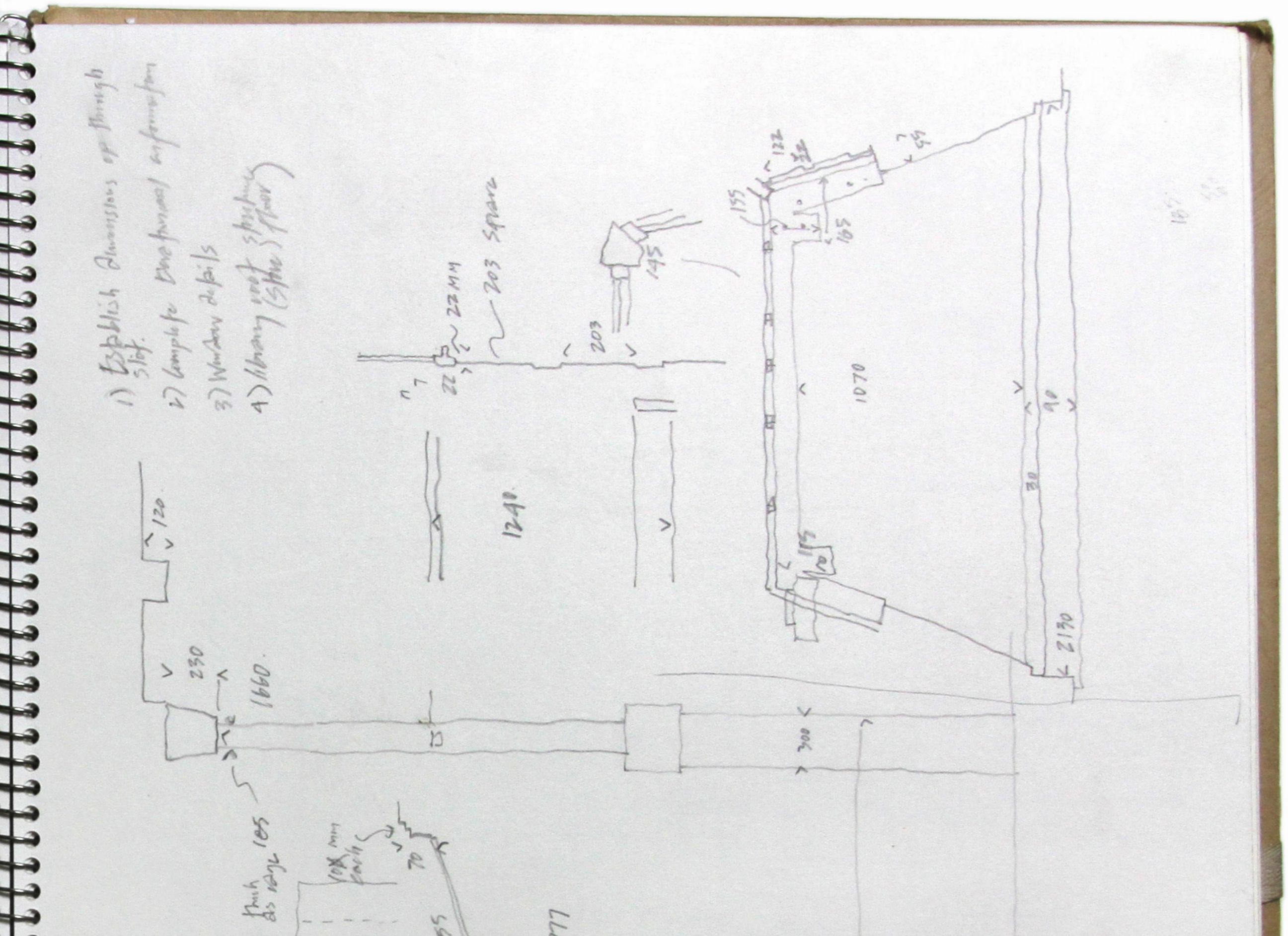
Visiting the Art School for first the time after the fire, I walked around in the semi darkness of a part ruin, disorientated by the destruction. The west tower was embalmed in a temporary protective shroud of scaffolding and canvas. The Glasgow weather was trying hard to billow this veil into life. On the top floor of the west side where the fire had taken hold, the whole attic extension, the hen-run and roofs were gone. The winter light filtered through the protective canvas in a soft glow: a healing halo, holding back the rain. Witnessing room after room of scorched black surfaces, it felt like an earlier Glasgow; of a black soot covered city, populated by buildings that you could run your fingers across like a blackboard. This blackness, now only a memory, but it seemed to me as if the city had been turned inside out, and the industrial dark city that the Art School had witnessed, and been part of, had somehow now seeped back in through the shadows of the fire.

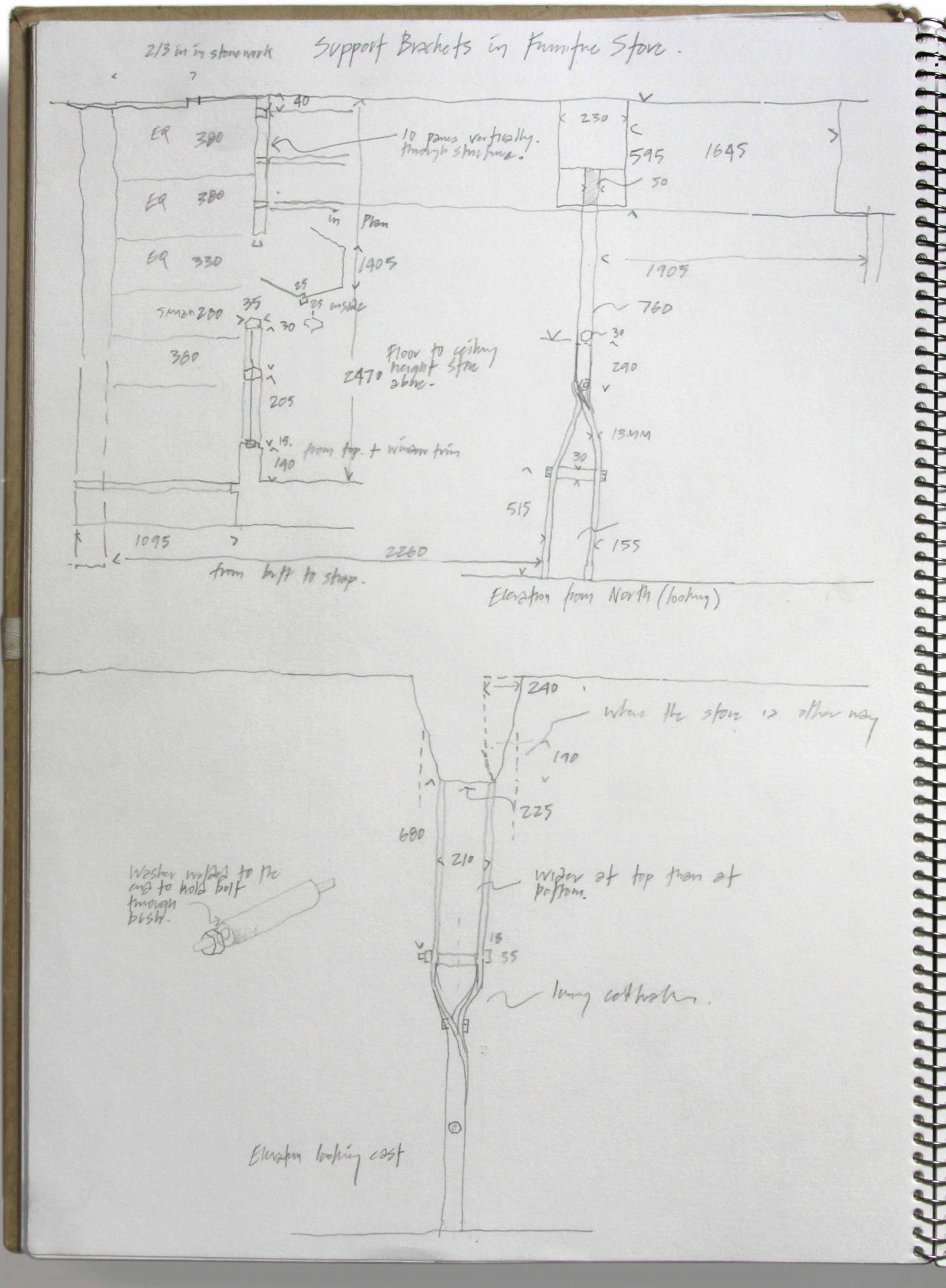
I had been reading a book by Paolo Belardi, *Why Architects still draw*.[5] It was written as a series of imagined lectures to his architecture students: a plea for the continuing importance and value of hand drawing. His central theme was that the hand drawn sketch was the acorn and essence of the architectural idea. In the midst of our digitally driven world, where the computer drawing and image dominates, he was writing about the space of drawing, and why in particular the hand drawn survey provided a knowledge that went beyond any scientific measure, beyond just physical dimensions. His thoughts shaped a question that had been running through my mind in relation to my own experience of the Art School library: of measuring it many years before; and now witnessing its destruction in the fire. It could be summarised in one of Belardi's lecture titles. It will be the subtext of this essay:

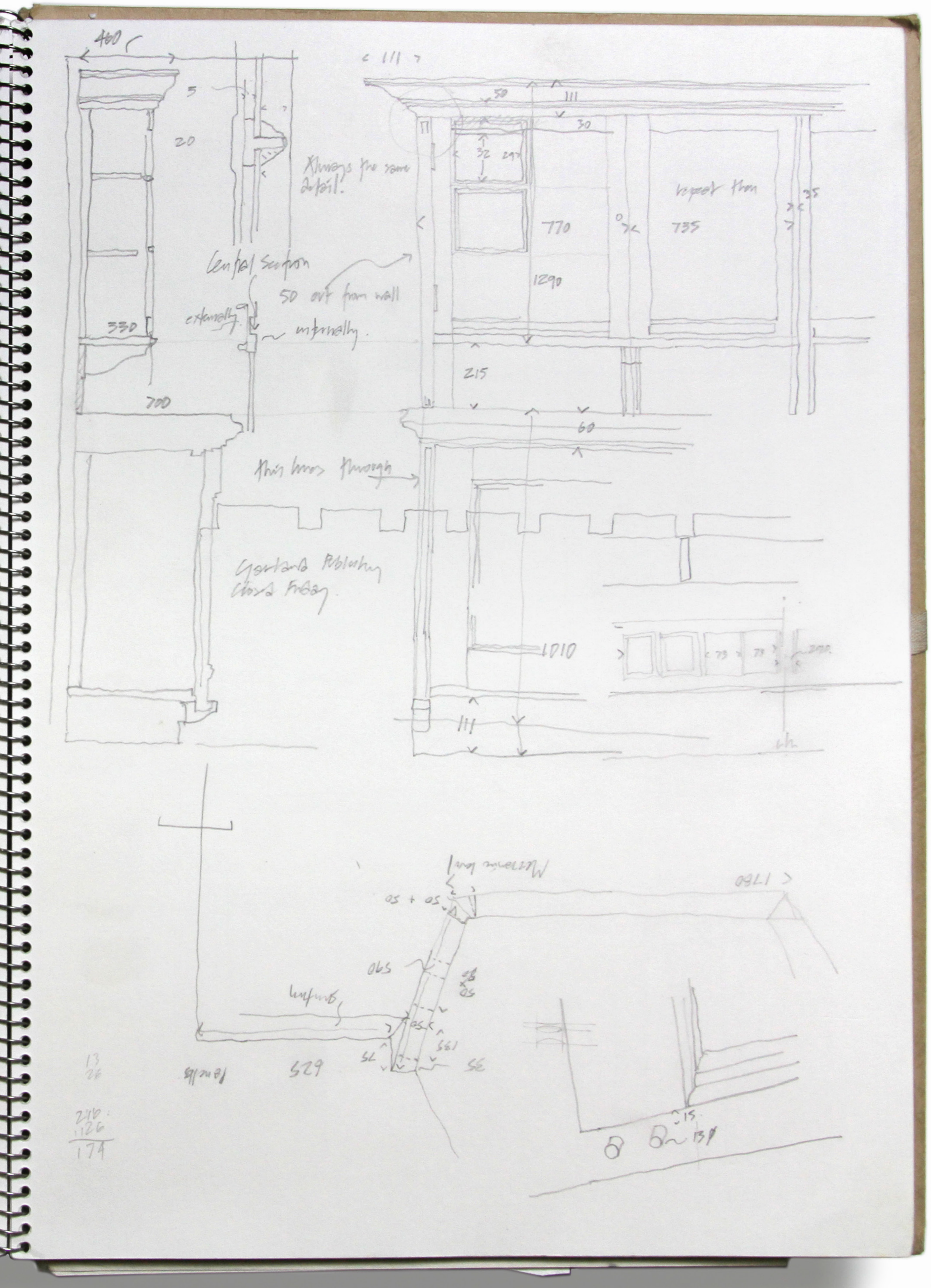
DOES A FOREST GIVE UP ITS SECRETS IF YOU MEASURE THE HEIGHT OF THE TREES? [6]

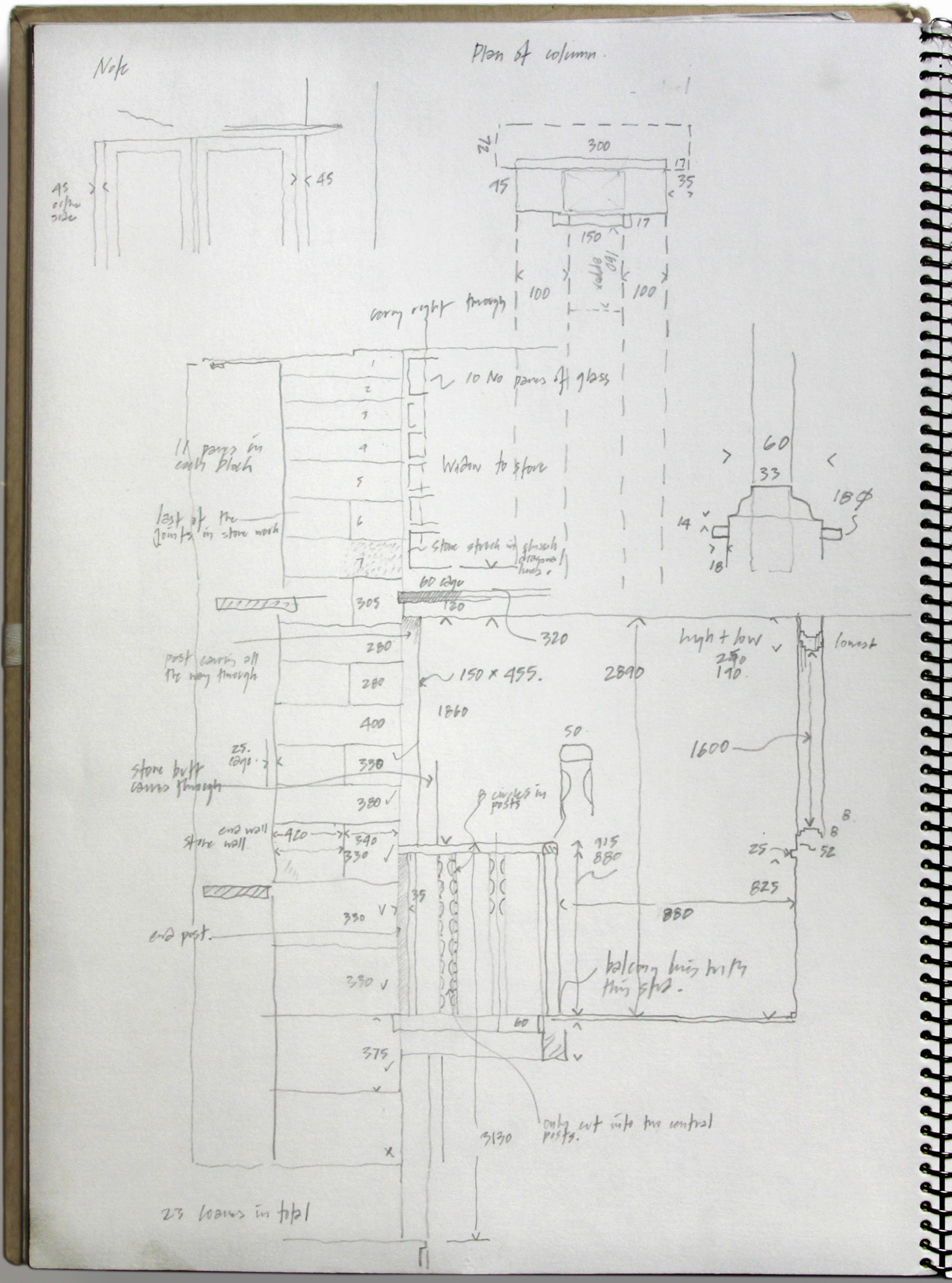
In 1993, while I was teaching at the Mackintosh School of Architecture, I was commissioned with the Historian Dr James Macaulay, and the photographer Mark Fiennes, to produce a book on Mackintosh's School of Art. It was part of Phaidon's *Architecture in Detail* [7] series. The idea was simple: to combine an essay, photographs, and drawings on a modern

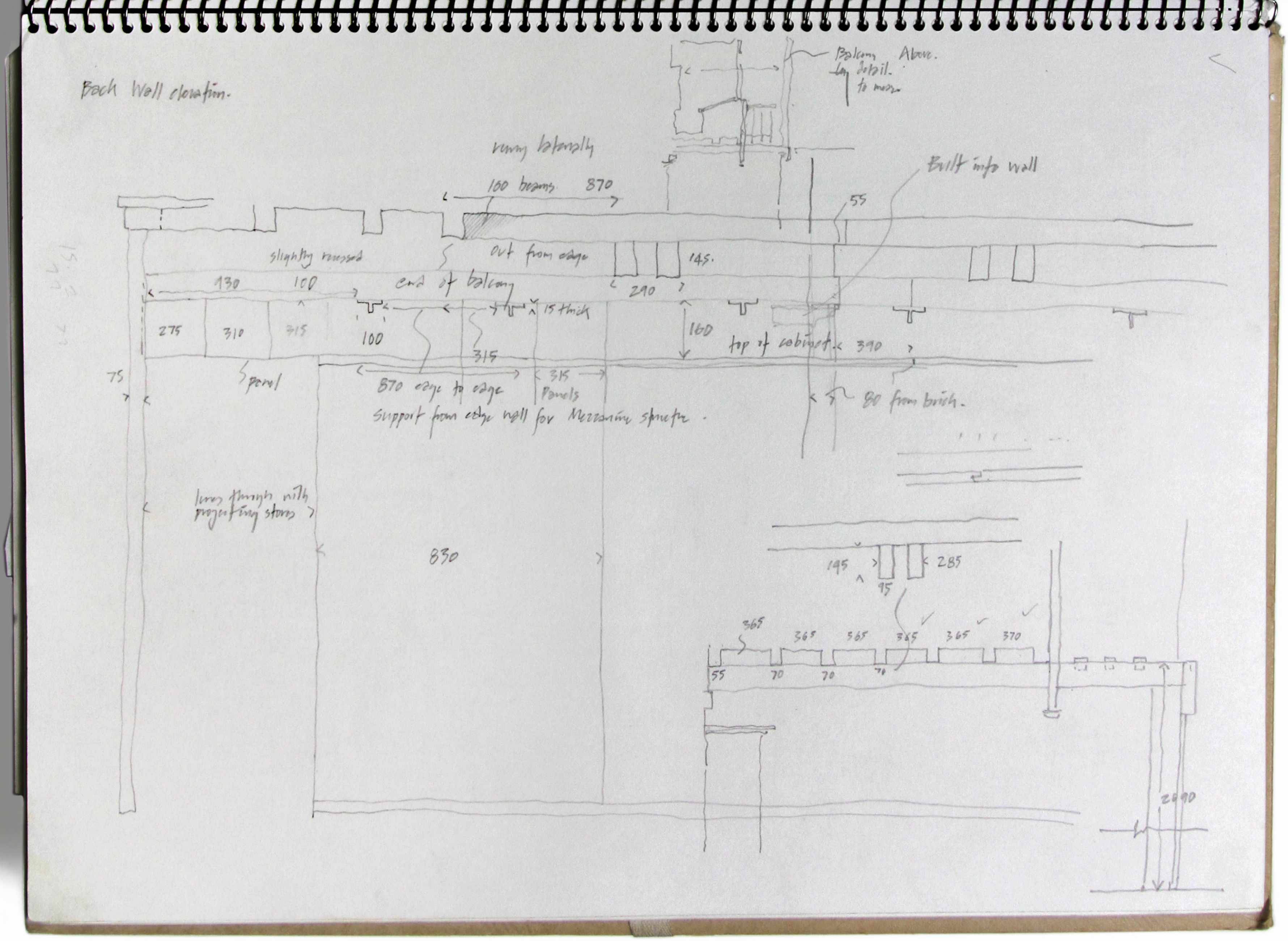

A.
wall in plan 7B.
boards
Beam
horizontal line carries through.
stone
does this narrow down

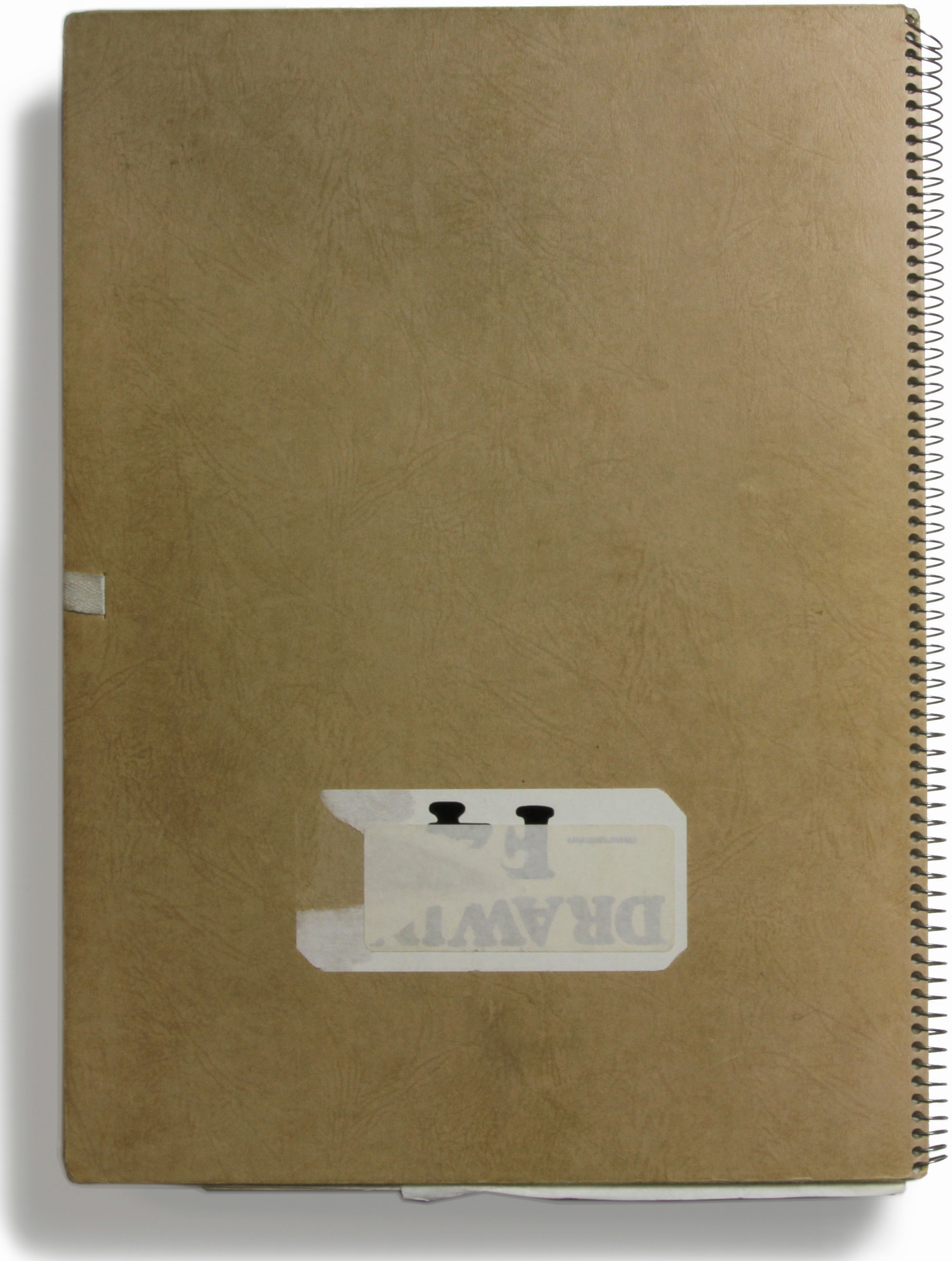

1) Establish dimensions up through slot.
2) Complete bond/formal information
3) Window details
4) library roof structure (Stone floor)
120
230
1660.
1240.
22MM
203 Square
203
195
1070
2130
300
2150
2400
300
777
755
620
75.
1160
285
300
555
100 x 100
1660
2255
2290
1500
1850.
Be Stone all way up.
360 staircase


2/3 in in stonework
Support Brackets in Furniture Store.
40
EQ 380
EQ 380
EQ 330
small 200
380
10 panes vertically. through structure.
in Plan
1405
25
25 inside
35
30
205
15.
140
from top. + window trim
2470
Floor to ceiling height stone above.
1095
2260
from bolt to strap.
230
595
1645
50
1905
760
30
290
13MM
30
515
155
Elevation from North (looking)
240
where the stone is other way
190
225
680
210
wider at top than at bottom.
18
55
long cotter bolts.
Washer welded to the end to hold bolt through bush.
Elevation looking east


Always the same detail.
Lintel Section
50 out from wall
externally
internally
this lines through
Garland Publishing
Closed Friday.
repeat this


Note
45 either side
Plan of column.
160 approx
carry right through
10 No panes of glass
11 panes in each block
Window to store
last of the joints in stone work
Stone stretch in glass in diagonal lines.
60 cage
post carries all the way through
150 × 455.
1860
high + low
lowest
1600
25. cage
stone butt carries through
8 circles in posts
end wall
stone wall
end post.
balcony lines with this step.
only cut into the central posts.
23 beams in total


Back Wall elevation.
Balcony Above.
for detail.
to mezz.
varying laterally
100 beams 870
Built into wall
55
slightly recessed
out from edge
145.
130
100
end of balcony
290
15 thick
160
275
310
315
100
315
top of cabinet
390
75
panel
870 edge to edge
315
Panels
Support from edge wall for Mezzanine structure.
80 from brick.
lines through with
projecting stones
830
195
285
95
365
365
365
365
365
370
55
70
70
70
2090



masterpiece. It had been a successful formula. There was little direction in terms of the drawings. The editor had sent me some photocopies of drawings from an earlier publication in the series, on Aalto's Villa Mairea with an attached note saying 'just do them like that'. But how could you approach Mackintosh's masterpiece in that way? What drawings could do this remarkable building justice and provide new insights? It seemed an intimidating task: to measure and describe a building that you had known and admired from your very first interests in architecture. But what form of drawings would be useful: axonometrics, exploded isometric details, worm's-eye views, perspective projections?

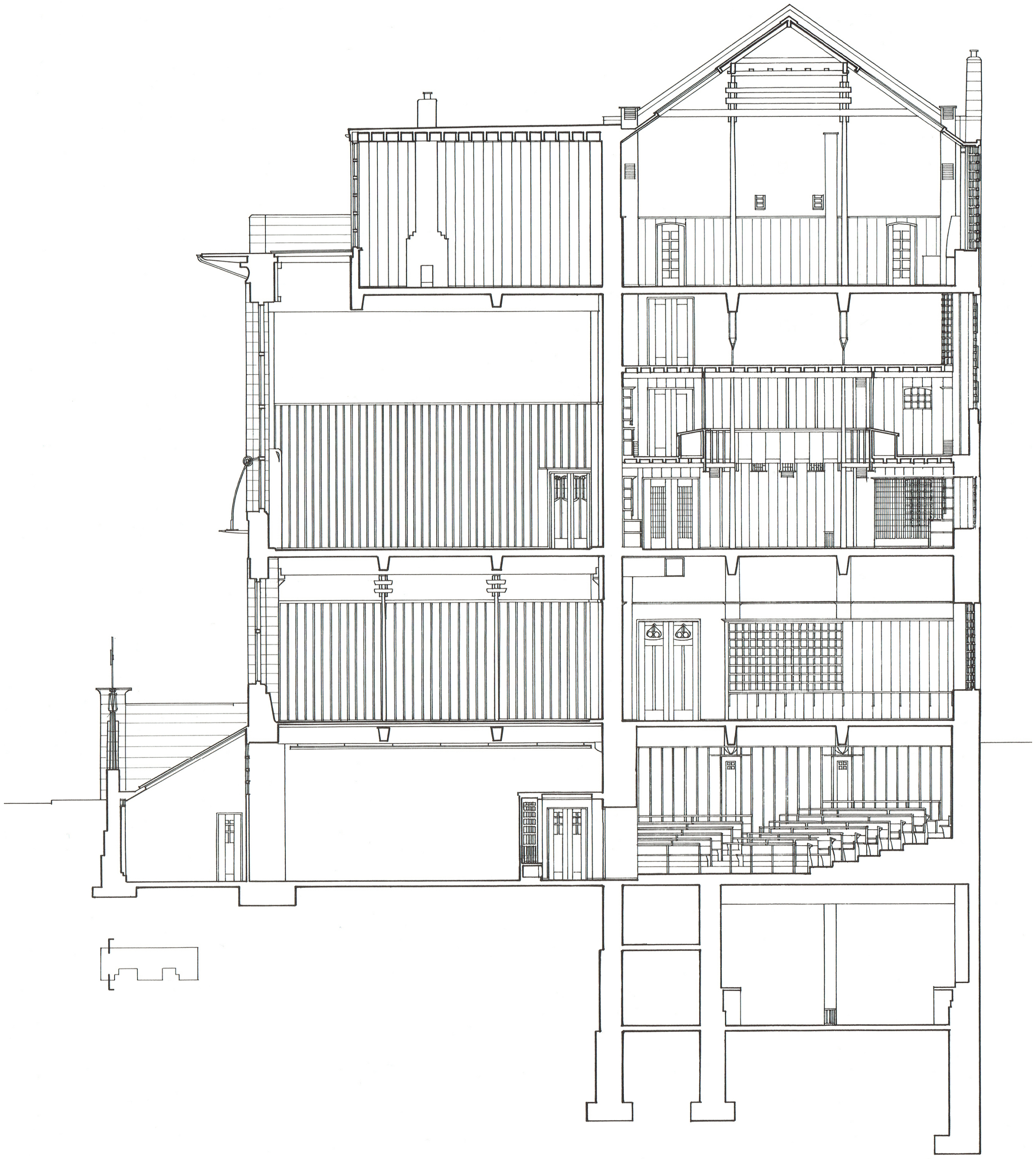
Mackintosh's creative genius lay in his extraordinary compositional abilities. His approach to whatever he was designing was framed and developed through the use of traditional architectural tools: the plan, the section and the elevation. In looking at the drawings of his buildings, interiors and furniture, the clarity lay in the use of this simple two-dimensional orthographic framework. While his presentational perspectives of buildings are intense in their density and delicacy of line, it is in the traditional orthographic two dimensional drawing that Mackintosh's architectural genius is evident: constructive, compositional and symbolic thought. Mackintosh makes his drawing process, which is embedded and absorbed in the traditions of his architectural education and apprenticeship, distinctively his own. In turn he sets the context for his unique approach to detail, and how it is integrated into an overall sense of compositional space. This 'laying out' of an idea, through the constructive logic of orthographic projection, sets out the form, measure, material and colour of what is being designed, in a language of drawing that is specifically directed to the making of things, and for exploring the context for the interrelationship between artefacts, furniture, interiors and buildings.

There are very few detail drawings of the School of Art by Mackintosh, other than those of light fittings and furniture. One larger detail section [8] is signed by him, if not drawn by him, but even that is incorrect in relation to the completed details. While overall the constructive fabric in the drawing is materially correct, all the key details that we associate with Mackintosh are shown as standard and undistinguished construction details of the time. This may be due to it being a Dean of Guild submission, for building approval. However, it may, more importantly, reveal Mackintosh's process for transforming the 'standard' details of the day. But how were such unique detail ideas instructed? Were the drawings handed directly to the craftsmen and then destroyed or discarded once the works were complete? Was this a standard approach in building at the time, or a strategy to allow the compositional detail to be developed and emerge relatively 'unseen' amidst the intensity of the daily site construction work? In contrast to our contemporary obsession with vast arrays of drawings, contracts, schedules, multilayered BIM three-dimensional models, and specifications -where everything is fixed and prescribed in advance- the clarity of the general layout drawings and sections produced by Mackintosh set out a framework for the inventiveness of his detail to flourish. This allowed, within the direct organisational logic of the Victorian plan, a series of territories within the building to emerge for the detail explorations and ideas to take shape. But this approach required time, experience and the knowledge of what was possible with the materials, and the abilities of the craftsmen available. For

Mackintosh this took shape in ordinary things: staircases, doors, clocks, railings, cloakrooms, and roof trusses. Or in a simple library space, defined only by a set floor area. Seemingly mundane or ordinary parts of the building were thereby given shape by the combination of the restlessly inventive mind of the architect, in tune with that of the hand and craft of the makers and fabricators. If the pencil line gave form to Mackintosh's thought, so the hand of the craftsman left its trace on the material. Few would see or know what detail would emerge until it was complete. The craftsman, ready to work on a seemingly straightforward detail, would be handed a drawing, to work directly from. This was a strategy for which the building committee took some time to recognise, and to which they eventually reacted (unfortunately).[9]

Mackintosh knew of Ruskin's belief -as described in *The Stones of Venice* [10] - that a building could be considered a 'document', composed of the individual 'signatures' of the craftsmen, set in the materials. If these 'signatures' were to take shape in the ordinary elements of the building, then Mackintosh would be the one firmly holding the pencil to 'write them'. Mackintosh did not subscribe to the the approach of many of his contemporaries, who would often leave much of the detail resolution to the craftsmen, to conceive or to deploy from a standard repertoire of Victorian ornament and classical profiles. Instead Mackintosh continually invented new forms and compositions in each of the materials and elements he worked with, no matter how seemingly mundane their function. Mackintosh repeatedly turned to the world of the things 'seen' and 'collected' in his sketchbooks to inform his composition. From the careful observational drawings of seasonal flowers, to the shape and mechanism of a door latch on a vernacular barn, this inventory of memory would forge the context in which the material 'signatures' of his buildings and furniture would evolve. Contrasts, shifts and discontinuities were embraced and apparent as part of this process of looking and making, and in shaping the Glasgow School of Art as a Ruskinian 'document'. In itself this 'document' can be read to measure the changing ideas and compositional skills of the architect, gained over an extended period of time during the two phases of the building, and as a witness to his changing approach to such materials as: stone, brick, timber, glass, cast iron and steel - the well understood palate of materials used in the labour intensive Victorian building industry.

To explore the significance of the detail in the building then, the 'signatures' needed to be viewed in the wider context of the architectural sequences, elements and spaces. In order to do that, I decided to focus on specific 'landscapes', within the building. These 'Landscapes' are the overall architectural events, forms, proportions, and spaces that when considered together, produced something unique, and which were in scale terms, between that of the overall building section, and the smaller individual details. A simple cartography of these 'landscapes' would be how I would approach the drawings. Two staircases added in the final phase, like outcrops to be scaled; several remarkable doors and doorways, such as the west doorway with its sequences of convex and concave movements in the stonework; the hanging system of the upper studio walls; were all key to this cartography. But it was the library that revealed the most challenging 'landscape' in the beauty and rhythm of its detail, construction and space.



Section through the Library

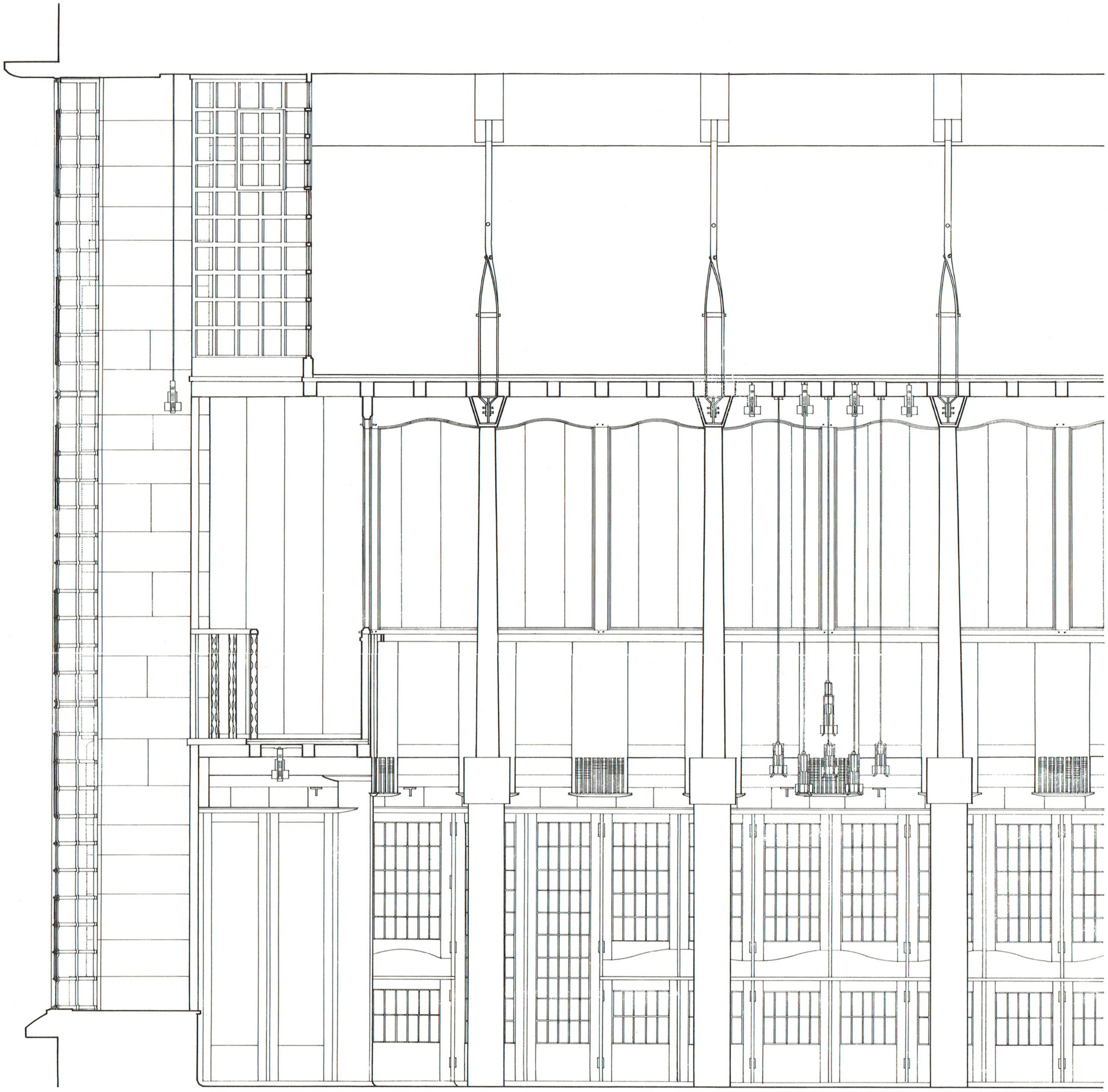
I decided to adopt the simplicity of the two dimensional orthographic drawing process, through which these 'landscapes' had been conceived. If music comes alive in the experience of how it is performed in time, in the interpretation of the written score, then so too does architecture in the experience of its constructed material space, in time. You must return to the notational framework, or score, to find the origins of the compositional idea. Like that of the building overall, the library is conceived from within the logic of its own structure, not just in the physical fabric of the structure, but more importantly within the notational structure of how it was drawn: a composition within a composition; of layers within layers. It would have to be set out, as it was thought out; measured as it was measured; but now in reverse; to start with the music in order to find the score.

I decided against taking photographs. Everything I would discover would be through drawing and measuring, placed in one notebook (bought from the art school shop). I began a daily dialogue with the building: drawing, measuring, re-measuring, and re-drawing, made possible by working in close proximity. Every spare moment between teaching, early mornings, lunchtimes, days off, was spent in the building. Without a camera there was an opportunity to really look; and through drawing to see; and then maybe to understand. This was a tradition as old as architecture itself; of the importance of 'slowness': of looking, of drawing, of measuring, of looking again, of thinking, of drawing and again. The experience was an intimate one: from the eye to the hand, from the hand to the drawing, from the material to a measure; tracing out overlooked lines, finding the different contours of materials, imagining hidden joints, all the time using the hand to guide, to measure, to draw and to touch.

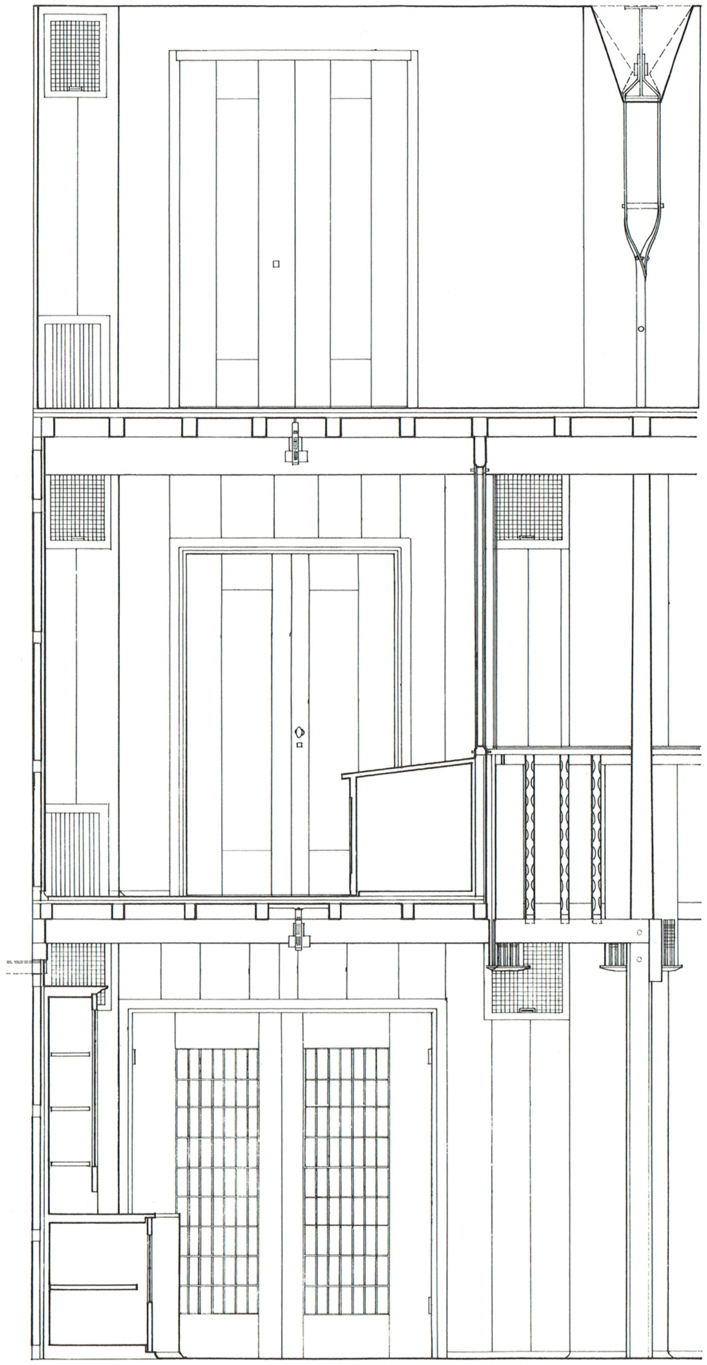
The survey notebook, like that of the anthropologist's fieldbook, becomes the holder and collector: awaiting translation. As I measured the library, it slowly revealed its dimensions, its details; things I had not seen before. At times I was surprised by the bluntness of the detail; watching the idea and the material playing out; discovering combinations of forms; tensions and material shifts; moments of potential conflict in the artifice; geometry and craft resolved in the register of its own logic, and invention.

As Belardi's book suggests, nothing could, or would, decode the library through measure. A drawing could only ever act as an evocation towards the original creative idea, which fully comes alive in the phenomenological experience of the constructed space. If some composers feel that the power of music is set by the unique nature of the interpretation of it from the score, then accordingly architectural space is experienced as a series of individual 'readings' of an original architectural idea.

The idea of the library had been germinating in Mackintosh's mind for a long time. Between the two construction phases of the building, it had gone from an indifferent and predictable layout - as described in the early competition drawings - to one of the most distinctive spaces in 20th Century architecture. In the first phase of the building the library was temporarily set up to one side of the museum space, as a set of cabinets against the wall. This remained the location until the completion of the second phase, when the library moved to the west tower. Between these two phases of the building Mackintosh's world had changed. What he had seen and experienced through travel; the changes in his private and professional relationships; what he had



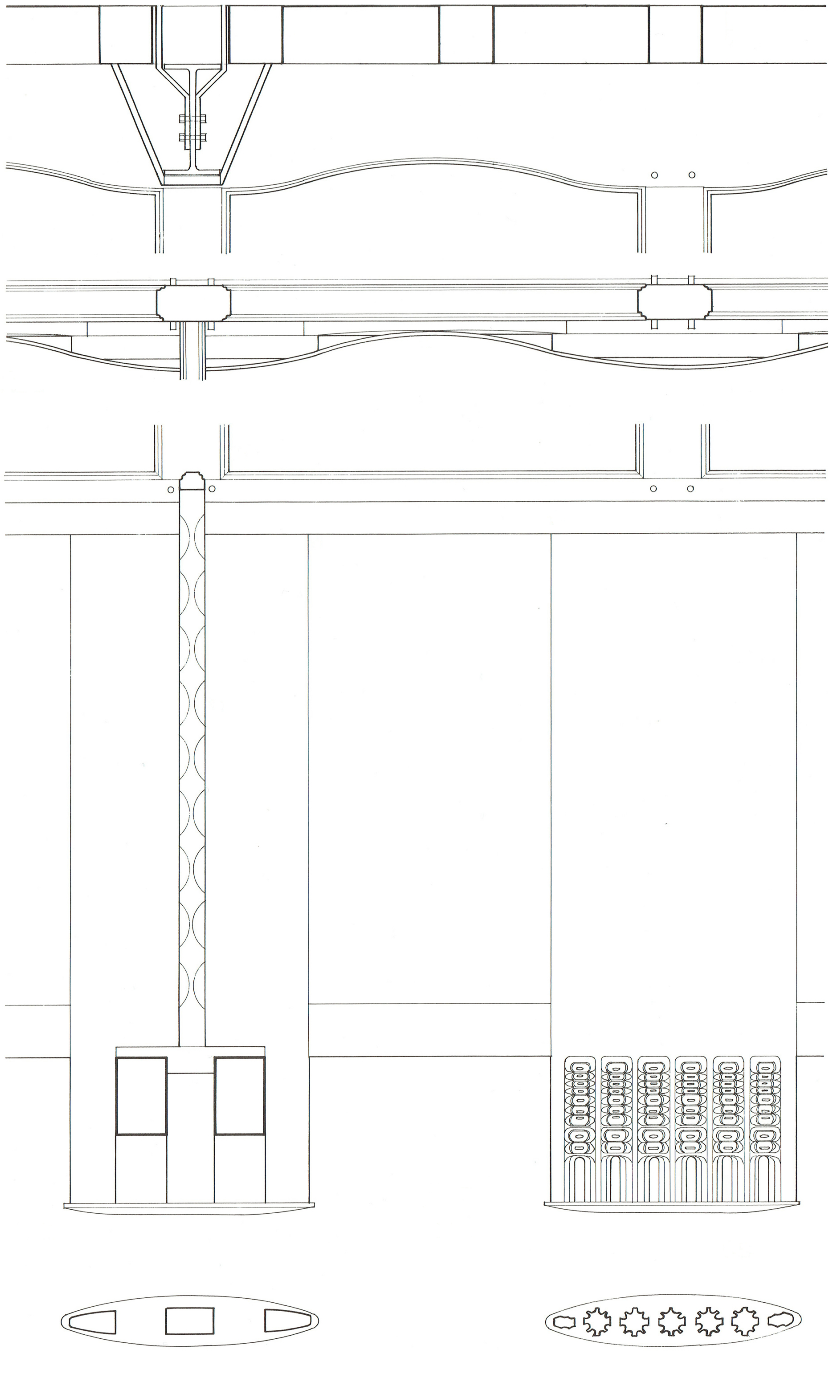
Section through the Library

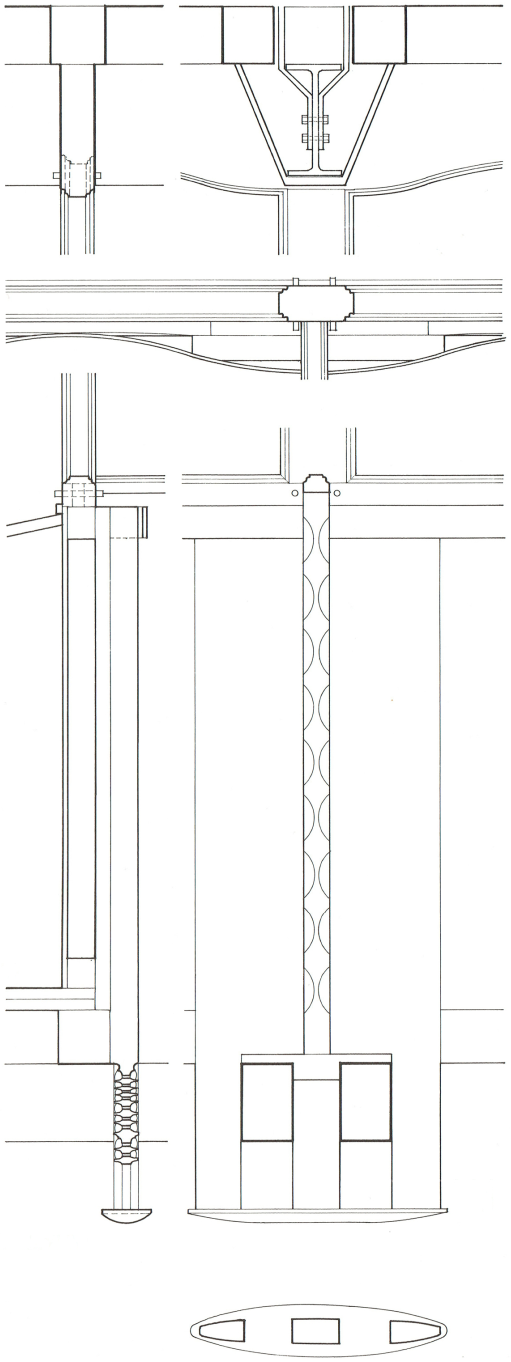


learned and developed through building; what he had drawn and imagined in his sketchbooks and foretold in the vibrant watercolour washes of his symbolic drawings; would all come to influence his work and his approach to the second phase of the building.

If the anatomist's knife has historically probed the layers and dimensions of the human body, in order to gain knowledge, then there is something of a dilemma in this opening up, and separating the world into, the seen and unseen. The skin of forms, of material constructions, of the rhythms and movement of space, can all be shorn of life in the scientific inquiry for knowledge, and measure. If music grows from silence to form, the architect's measured survey works by taking things apart through number, line and drawing: to uncover and dissect the phenomenological pact, of how we experience space and materials. If in his famous book of anatomical drawings Vesalius[11] sets free his half dissected cadavers to wander across strange Beckett like landscapes, and to stand upright at the very tables they would normally be lying on, cut open, then he does so to defy our perceptions. Knowledge is not absolute, nor is it to be restricted from playing out in our imagination. It does not follow that any scientific enquiry will provide the answers; as to how and why we are moved by what we see, and feel. Our constant need to know, to catalogue, to categorise, and to measure, is but only a worthy absurdity, in holding back an ever repeating Sisyphus condition: our endless search for knowledge and meaning. We look out over a complex world that is ever changing, incomplete, fragmentary, discontinuous, and wonder at it. To know it, you must continually re-make it. Mackintosh's art centred on this re-making of the world: of transforming the ordinary things

Section through the Library





that surround us into sublime windows to look back into the world, to enrich our experience of it, and to see the possibilities of Art in re-making it.

When I completed the survey of the library; after I had spent days measuring it, walking it, studying the details, as I had other parts of the building; had I come any closer to knowing it? Did I have a different insight beyond the first day I had walked into the library and felt its hypnotic beauty? Did my 'laboratory' notebook of measurements, notes and drawings offer any code-breaking information into Mackintosh's genius? I had discovered many things: about the building; about the library; about myself; about the people who worked and studied in the building; about discovering books in the library; about how to find keys to open long closed cupboards; about looking out over the city through the small grids of the windows; and about the shifting, changing light of a day, across the dark wood of the library.

When all the drawings were complete, and the book was published, the notebook was closed. It was closed for over twenty years. On the day I heard about the fire, and that the library was totally destroyed, I opened it again for the first time. Measure for measure it came back; like a score in my head; but knowing now, that it all, only existed in silence.

We know that Mackintosh conceived the library to be in oak,[12] and in order to make savings, as the financial control and the completion of the building began to be taken away from him, it was changed to the cheaper material of pine. But did the dark stain of the completed library mask the dream of another material? Is this thought of oak echoed in its detail? Did the abandonment of a material, so loved in all of

Mackintosh's furniture and interiors, cast a shadow over his ideas for the library, or did it transform it?

If oak had been approved, what then? We can never know. Mackintosh could transform materials and make them feel as if they had come alive with his invention, while at other times the material is deliberately insignificant to the power of the idea. Oak could easily become hidden, under layers of white paint. But was the mystical force of the oak hidden in the rising and falling of the coloured chamfered notches in the library balustrades; leaves calling from each season, with their carefully selected colours and rhythms? Was the oak's transformative power set in the richly carved pendants, seeded with stacks of time; each one unique like a tree? Can it be found in the undulating rhythms of the concave and convex panelling and pendants; or in the rippling band that traced the push and pull of the panels, throwing the plan into movement, and a sense of oscillating time? Is there a sense that there was more; of something stopped in time?

Thomas Howarth [13] captured the mood of the library beautifully in his description of it as:

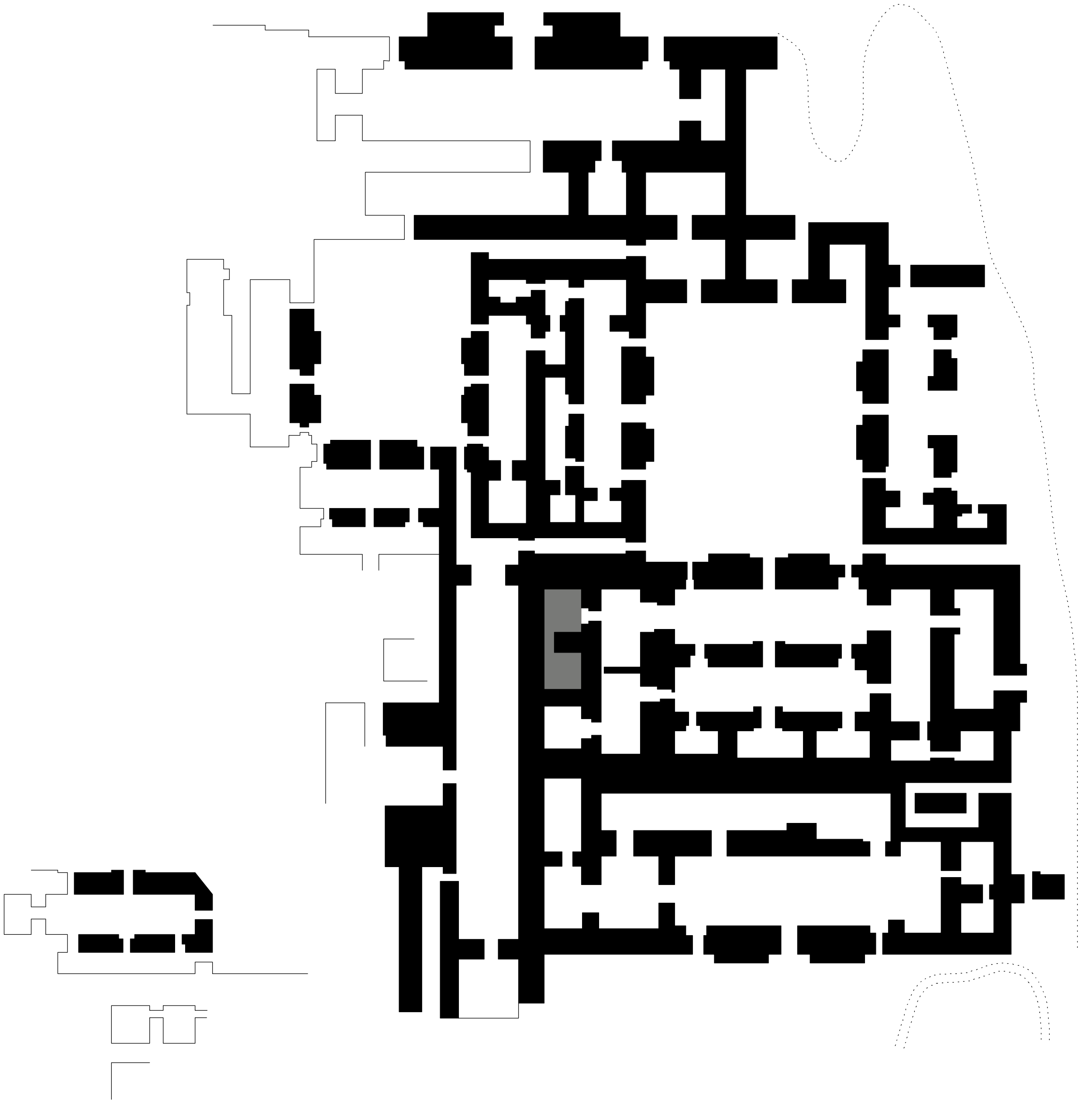
"*…the silent, brooding pinewoods of the Trossachs*".

But the pine and the oak stand in the same forest. When an aspiration to make something in a specific material is lost, is this memory held in time?

With the fire there is time again; time to remember what has been lost; time to imagine what could be. When the forest that we so loved has gone, the only thing possible is to plant it again; to wait; to watch it grow; to discover the qualities of the new trees; and to know that their secrets will not be given up in measuring them.

"*When the oak is felled, the whole forest echoes with its fall, but a hundred acorns are sown in the silence of an unnoticed breeze.*" [14]

- Paul Clarke



Library of Ashurbanipal
Nineveh, 700 BCE

Library

Karl-Heinz Schmitz

Until a few years ago, it was common to define a library either as a collection of books or as a building in which a collection of books is housed. Although the shortcomings of this definition have become obvious, we do not have a new definition incorporating the far-reaching changes that are presently taking place. Anyone writing about new library buildings today might well ask whether we will still be doing so in, say, 50 years time.

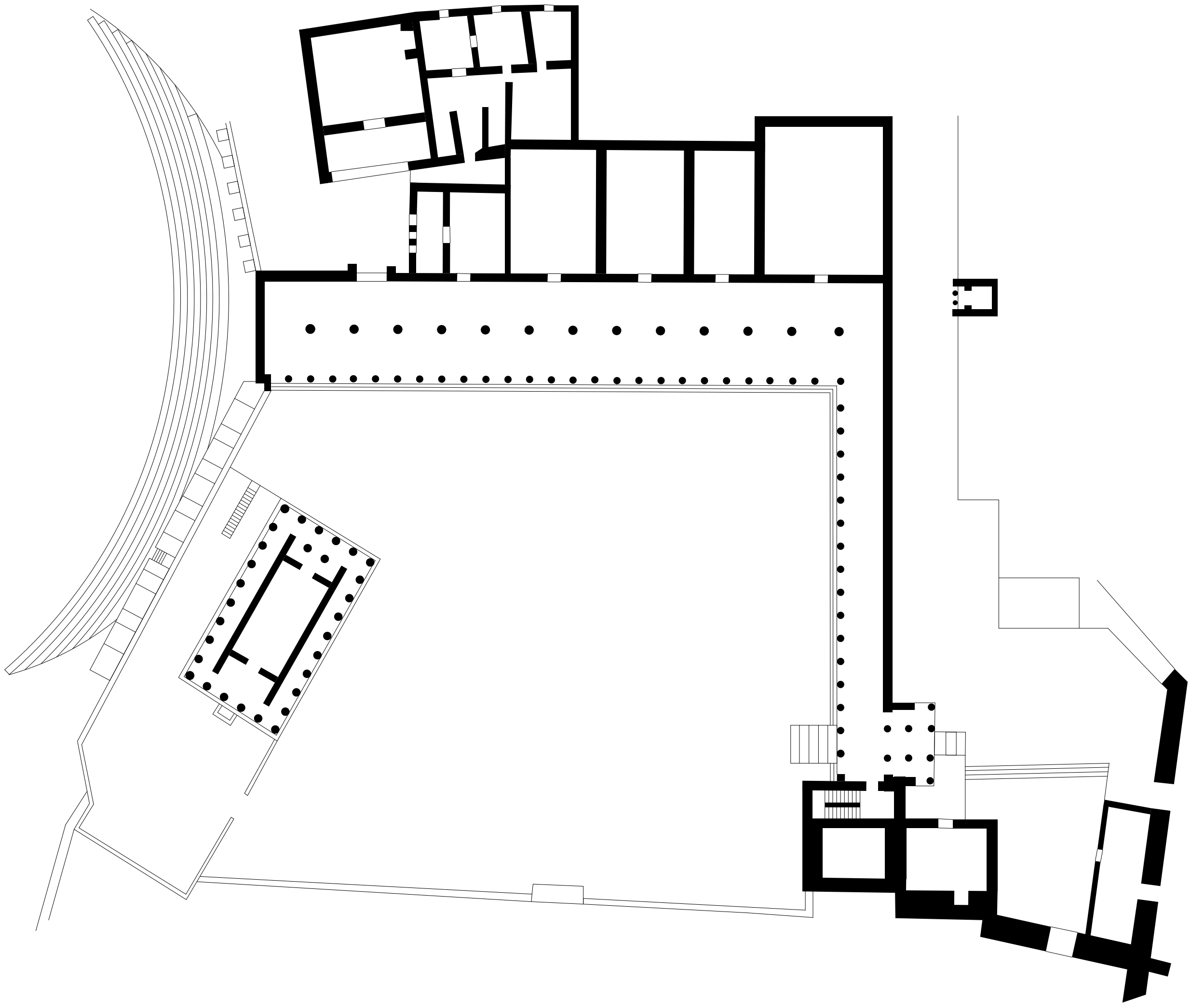
Given our current lack of certainty and predictability about the future of libraries, it might be useful and enlightening to look back at previous periods of change affecting the history of the library. Many have written about the consequences of losing the physical book; what, however, will happen if we lose the physical place?

The Library has always been a place where one could read and study according to a greater plan. It is this greater plan that I will be writing about. Although the function of libraries has remained fairly constant throughout history, its purpose has not. As an architect rather than a historian, art historian, philosopher or librarian, I will try to understand how library buildings, throughout history, reflect the purpose of libraries at different times.

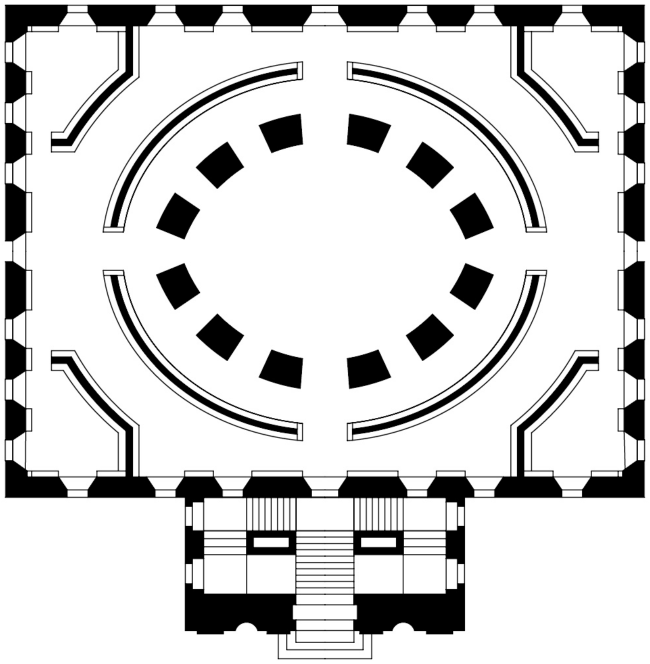
Ashurbanipal's Aid to Good Governance

One of the earliest plans of a library may be found in Ashurbanipal's archive in the palace of Nineveh. The floor plan is fairly simple and reveals neither its function nor its purpose. The fact that the two rooms said to have contained the archive are embedded deep within the palace is, however, revealing, as this does support the assumption that this was a private archive, accessible only to King Ashurbanipal and his scribes. Professor Andrew George has described the archive as King Ashurbanipal's aid to good governance.

"*Ashurbanipal, one of the last great kings of Assyria, was on the throne for about 40 years, from 668 to 627 BCE. This unusually long period gave him the opportunity and the time to pursue something he seems to have taken a deep interest in. The documents that were found in the palace tell us something about what Assurbanipal was trying to achieve with this library: Assurbanipal set out to collect all of the scribal tradition, everything that was written down in Assyrian and Babylonian Scholarship.*



Library of Pergamum
Turkey, 197-159 BCE



Herzog August Library
Hermann Korb, Wolfenbüttel, Germany, 1710

The documents reveal why Assurbanipal began to collect written documents on such a large scale. They reveal that he collected scribal tradition because it was good for kingship; in other words, it was an aid to good governance." [1]

The First Royal Academies

Two of the most prestigious libraries of the classical world were the libraries at Alexandria and Pergamum. Although the library of Alexandria was the older, bigger and more significant of the two, it will only be possible to refer to the plan of the library at Pergamum, as the former was situated in the royal district which subsided into the sea. It is likely that both libraries were modelled on Aristotle's peripatetic school, designed around a colonnaded walkway. The library at Alexandria is said to have encompassed a garden, a large dining hall, a reading room, lecture halls and meeting rooms. It was a repository for a vast number of scrolls (reputedly 500,000) and a cultural centre, intellectual meeting place and a place where scientists constructed research and exchanged ideas. The library of Alexandria was a scholarly institution. Compared to the plan of the palace of Nineveh, one can see how the purpose of the library had changed. More than an archive serving the needs of the king, it had become possibly the first university in history. As in Nineveh, however, the library of Alexandria remained under the control of the king; it was a royal academy.

Rome and its Imperial Libraries

In the Roman Empire, Greek academies remained the most important centres of learning. The bigger libraries of Rome included both Greek and Latin texts, separately housed, as was conventional practice. The Roman libraries were not built in combination with museums, as the Library at Alexandria had been. They were often built in combination with administrative buildings and sometimes with baths, schools and lecture halls. The Bibliotheca Ulpia, for example, which was established by Trajan in 113 AD and continued into the 5th century, was also Rome's Public Record Office.[2] Although none of the Roman libraries achieved the reputation of the library at Alexandria, their plans show a great degree of sophistication. Alexandria's library's unique history inspires a sense of wonder at the ability to generate scholarly learning. Roman libraries were designed to be replicated and can be admired for their contribution to organise an empire.

From the 4th century onward history records the destruction of more and more libraries. There are claims that in the 4th and 5th centuries Christians burnt pagan libraries. Several legends are spun around the destruction of the Library at Alexandria. According to one legend the caliph who conquered Alexandria in 642 AD said: "*If those books are in agreement with the Quran, we have no need of them; and if these are opposed to the Quran, destroy them.*"

The precise details of the demise of Greek and Roman libraries are uncertain. Both the Christian and the Muslim stories, however, contain elements of truth. The attitude expressed in the Muslim story dominated the first phase of Christian and Muslim hostility towards libraries.

The Monastic Library - The Divine Library

The first 500 years of monasticism belonged to the recluse who had renounced the world. To early monasticism, only one book was essential for a life of spiritual fulfilment. Monasticism *without* learning was the prevailing spiritual movement of early monasticism. Only one space was needed to establish the divine library: a space with a desk and a stool.

Given a belief that all useful knowledge is held within the Bible or the Quran, why have more books than the Bible or the Quran? Both the Bible and the Quran were believed to have been written by means of divine inspiration; and guided by the hand of God.

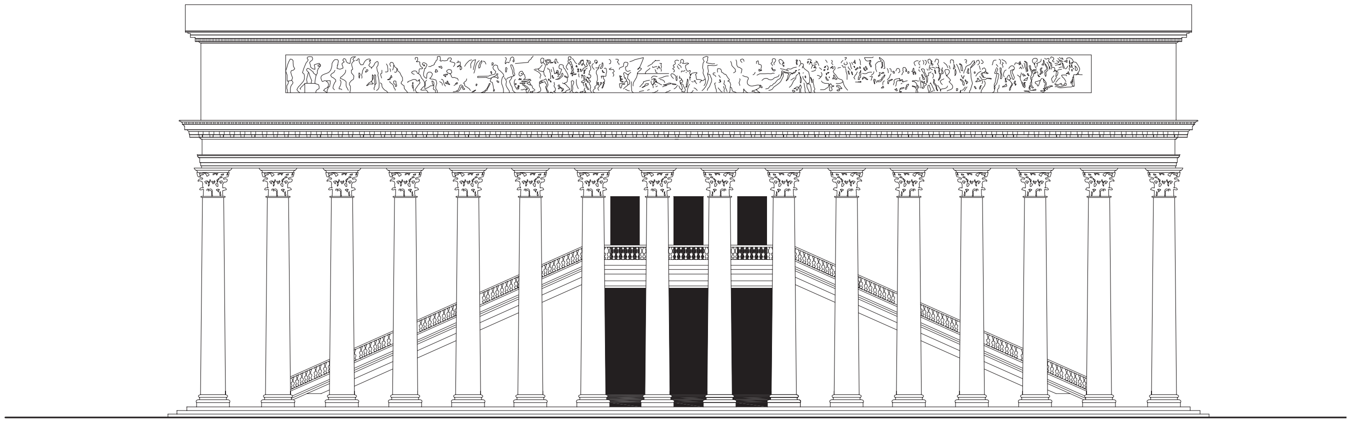
"*Seen in this light, the Bible is perfect: there are no books missing, no books extraneous. They are perfect libraries, a collection of exactly the books that God intended for humankind. Without the certainty of St. Jerome, every other librarian has only one option: include it all, leave nothing out. It was this caution that had motivated Ptolemy I to build the Library of Alexandria at the end of the third century BCE, in which he hoped to assemble 'all the books of all the people of the world.' ….. If you do not have the divine grace of Jerome, to tell you which books to keep and which to exclude, you are obliged to take in everything, and you are condemned to a library without end.*" [3]

The image of Cassiodorus represents the beginning of the second phase of monasticism. We are no longer looking at St. Jerome sitting alone, translating the Bible into Latin. Next to the desk and the stool there is a bookcase which now has room for more than one book. The second phase of monasticism comes with Cassiodorus and Benedict of Nursia, who in 529 AD founded the first Benedictine monastery on Monte Cassino, halfway between Rome and Naples. 529 AD is a symbolic date, as it was also the year when, by decree, the Christian emperor Justinian closed the Platonic Academy in Athens. By doing so he sealed, as the German philosopher Hegel put it, "*the downfall of the physical establishments of pagan schools and pagan philosophy.*" [4] From this point onwards, the museum, the library and the school disappeared from the face of the town and museum and theatre buildings disappeared completely. They made a return during the Renaissance, 900 years later, this time embedded within the royal, the ducal or the papal residences. The library and the school did not disappear entirely during the Middle Ages; from the 6th century onward, they could be found in the monastery, a sign of the shift of intellectual life from places like the Greek Academy to the cloisters of Christian monasteries.

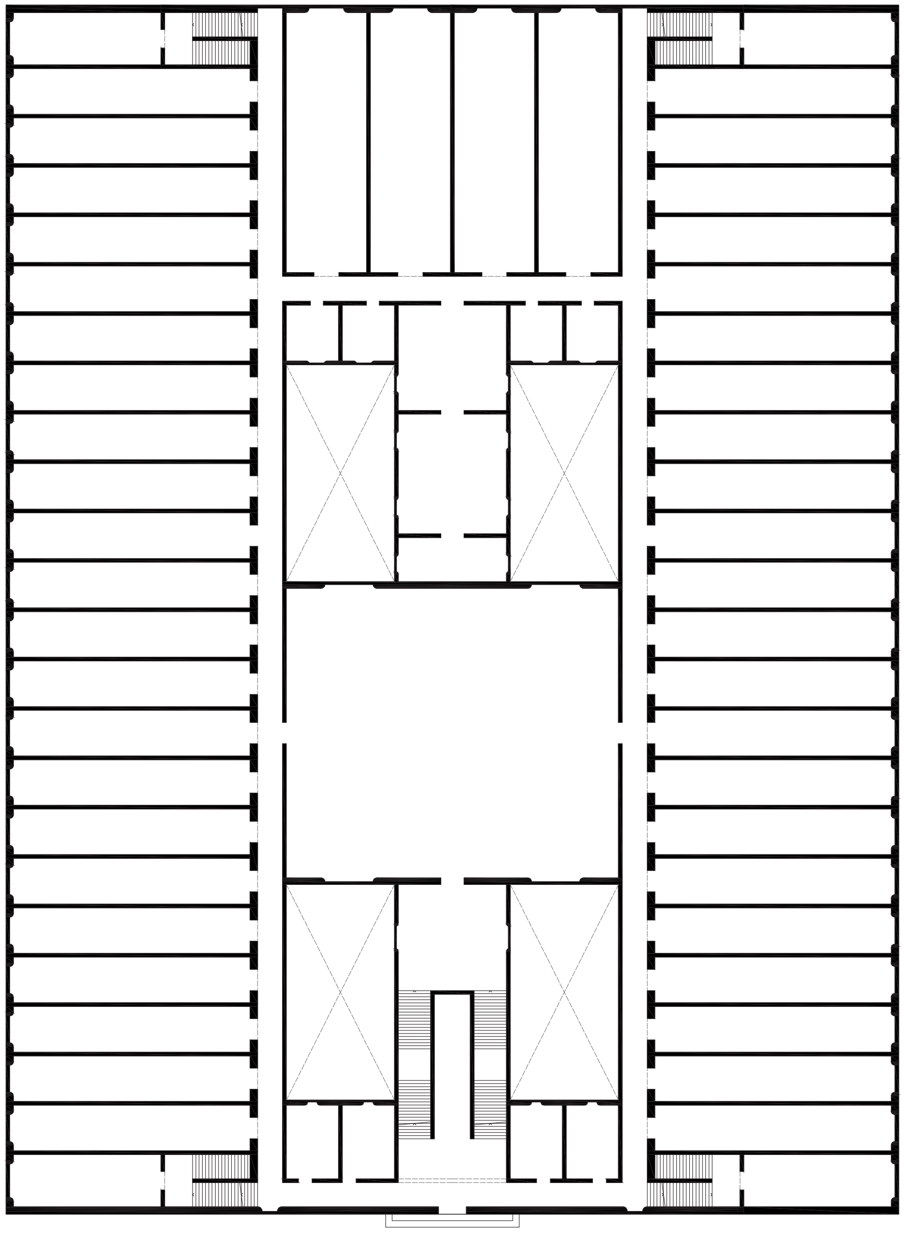
By the 6th century, much of the philosophical legacy of the Ancient Greeks had been lost to the Christian world. However, the Arabic mind of the 8th and 9th centuries, under the Abbasid Caliphate in Baghdad, came into contact with Greek literature and Chinese and Indian culture and science, and very soon, the intolerant self-sufficiency of the early days of faith, which deemed the Quran to be the only possible book, was abandoned. The House of Wisdom in Baghdad played an important part in translating Greek texts of science and philosophy into Arabic, and in the 12th century this knowledge was transported to Spain and Sicily.

The University and the Scholastic Library

The third phase of monasticism was characterised by a return, out of retreat, to the city. The monastic orders of the Benedictines and the Cistercians had built their monasteries far from the cities in order to seek economic and spiritual independence. This changed in the 13th century when two new orders, the Franciscans and the Dominicans, the mendicant orders, began to build their monasteries in the cities, where they could engage with the citizens of the towns. They moved into the parishes and they began to dominate the newly founded universities.



Bibliothèque Du Roi
E.L. Boullée, France, 1785



Design for a Library
Leopoldo della Santa, 1816

Thomas Aquinas, the most influential Dominican, said at the time: "*Just as it is better to light up others than to shine alone, it is better to share the fruits of one's contemplation with others than to contemplate in solitude*." The mendicants were responsible for reconciling classical and Christian philosophy. Their studies of Aristotle and Islamic Scholars changed the curricula at the universities of Paris and Oxford and they paved the way for the Renaissance.

During the 12th century, the monastery that in 529 AD had deprived the city of its two most important institutions, returned to the city bringing with it the school and the library along with pagan knowledge and culture. The monastery turned into a university, thereby changing from a place of secluded contemplation and learning to a place for meetings and discussion.

Medieval university libraries introduced the stall system, an arrangement in which bookshelves were positioned next to a window and at right angles to an outer wall. The earlier libraries, such as the Merton College library in Oxford, used a combination of lecterns and shelves, the most effective way of working with books, considering that the first crude system of securing the books included chaining them to the shelves to prevent scholars from reading the books elsewhere. The system of lecterns eventually proved to be ineffective, as it took up too much space and, in time, workspaces were separated from the shelving.

The Humanist Library

The introduction of paper by the Arabs, via the Chinese; the discovery of old texts and new knowledge; and the discovery of the printing press led to a great proliferation of books. As a result, there was not only an increase in books at universities, but also in private collections. During the early Renaissance, a new system of thought, which attached importance to human rather than divine or supernatural matters, promoted a new class of humanist collectors. In 1468, Cardinal Bessarion, one of the most learned scholars of his time, donated his extensive collection of Greek manuscripts to the Venetian senate. This formed the nucleus of one of the first semi-public libraries in history. Another humanistic library, the Laurentian Library in Florence, which was the private Medici library, opened its doors to a circle of humanists.

Unlike the university libraries, which were clearly specialised to serve their faculties, the humanist libraries were universal and not specialised. They did not render a service to the broader public, as our libraries do today. Eventually, however, they became state libraries reliant on state funding. In time, their collections began to serve the interests of the sovereign. For example, the Bibliotheca Palatina of Heidelberg, one of the most important libraries of the Renaissance, was one of the leading Calvinistic libraries with which Ottheinrich Count Palatine demonstrated his patronage of Protestantism.[5]

The Royal Treasure House

The university and humanist libraries were soon to have a rival concept, which became particularly popular at the Catholic courts of Europe. This new type of library, which was based on the 'wall-system', featuring bookcases along the walls only, was favoured by the courts rather than the universities. The court libraries were treasure houses rather than academies. The university libraries, however, were an expression of academic choice and a service to all members of the university. Books were arranged according to specific subjects such as mathematics, medicine, law, history and theology. The court libraries were often an expression of individual rather than public choice and were seldom used for scholarly learning.

The Library of Conflicting Ideas versus the Censured Library

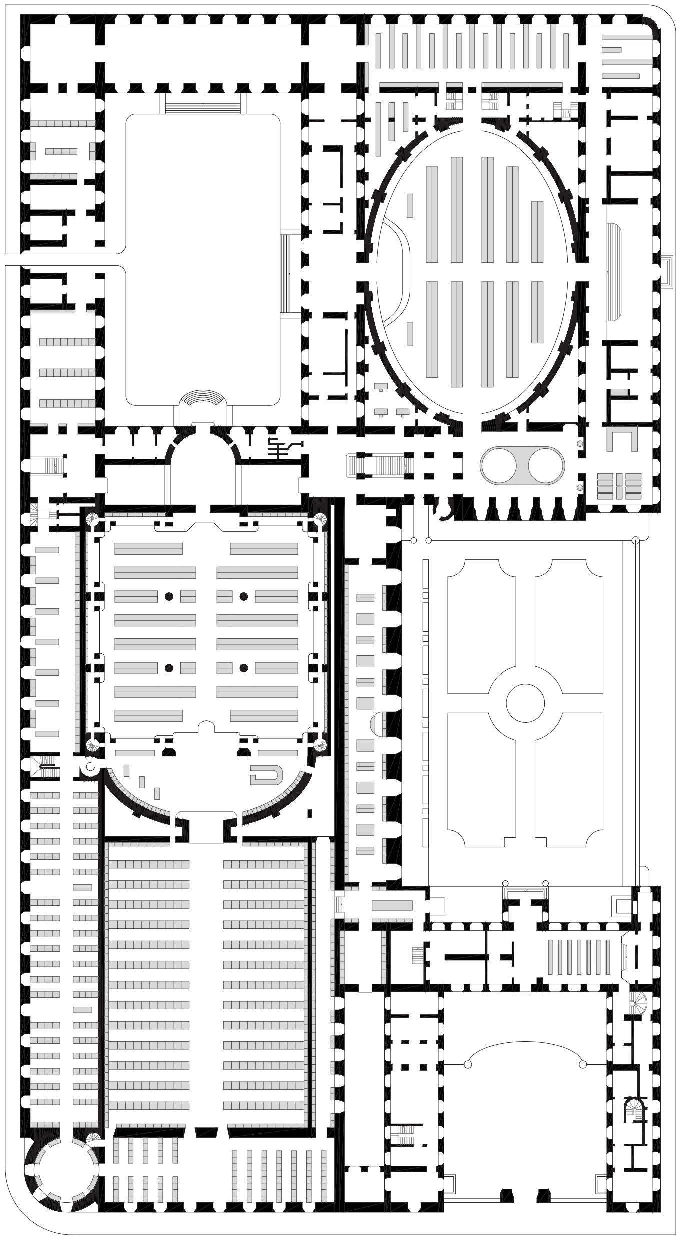
Many libraries that had their beginnings as humanist libraries were ultimately modelled to suit the sovereign and his general policy. It would be wrong, however, to condemn all of these libraries as representing the private whim of a king, duke or cardinal. When Cardinal Mazarin, advisor to the King of France, opened his library to the public, he hired a librarian, a man called Gabriel Naudé. Thanks to Mazarin's wealth, and the competence of Gabriel Naudé, the library soon grew from a collection of 12,000 to 40,000 books, becoming the biggest private library of its time. Naudé had written a book called *Advice on Establishing a Library*, which became the guiding principle for Mazarin's library: a universal library which was to house everything. This, again, is the antithesis of the divine library. Naudé wished to collect everything: the great works of literature and their commentaries and their interpretations; he thought of including trivial and useless books plus all those books which had been condemned as being heretical. Gabriel Naudé arranged the books according to themes to help readers find what they were looking for. Where this fell short, he set up catalogues to inform the reader. In a sense, this was similar to the scholastic libraries of the early universities. However, whereas scholasticism was intent on engaging with heretics in order to beat them at their own argument, Naudé's library was a political space in which cosmopolitan and antagonistic writers and readers could engage without defeating each other - more important still, *without* resolving each others differences. To Naudé the universal library was a small cosmos, a replica of the greater world of politics.[6]

Uwe Jochum, who has written on the history of libraries, now advances another idea. An idea represented by those libraries of the 17th and 18th centuries that did not secure neutral ground for antagonistic ideas but, on the contrary, libraries that served the sole interests of the sovereign or his loyal librarian. This, according to Jochum, was what the German philosopher Gottfried Wilhelm Leibniz had proposed to Duke Ernst August in a memorandum, i.e. the establishment of a library which would contain only that which is useful, good and true – something utterly reliant on the decision of the duke and, of course, Leibnitz.

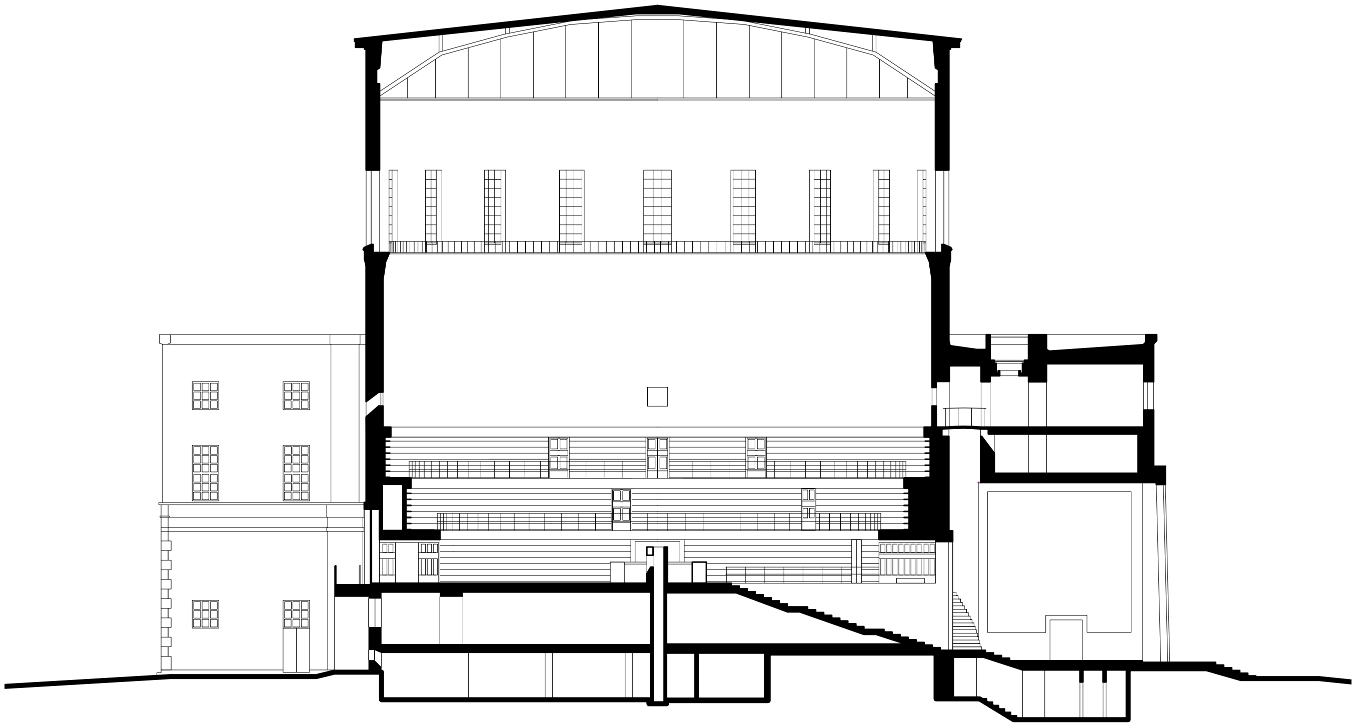
It is tempting, when comparing the interior of Mazarin's library with the library at Wolfenbüttel, to find some kind of architectural confirmation of the two concepts described by Jochum but that is probably a step too far. One could possibly say that the circle, the oval, the sphere and the rotunda have always represented an ideal and finite world: nothing can be added and nothing can be subtracted without damaging the initial spatial concept. The geometrical disposition of Mazarin's Library, on the other hand, seems less sensitive to the consequences of growth and change.

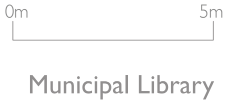
The Encyclopaedic Library

The protagonists of the Enlightenment from the beginning of the 18th century were driven by Gabriel Naudé's concept of an open library, open to diversity and conflicting ideas and open to all the knowledge of the world.



Bibliothèque Nationale
Henri Labrouste, Paris, France, 1868





Municipal Library
Gunnar Asplund, Stockholm, Sweden, 1928

Critical minds, mainly French, began to question traditional institutions, customs and morals and above all the political system, which had always had a decisive influence on the nature of public spaces. The process of change, slow at first, finally erupted at the end of the 18th century, finding its climax in the French Revolution. For a short period after the French Revolution things changed quickly and radically. Whilst most libraries up until this time had been embedded either in town halls, universities, monasteries or royal residences, there was now the need to design freestanding and independent libraries which would be open to all citizens and whose book collections would express public rather than individual choice. The first plans for independent museums and libraries appeared at the end of the 18th and the beginning of the 19th century. One of the themes of these new, independent institutions was to demonstrate their accessibility. Étienne-Louis Boullée exaggerated the idea of public entry when, four years before the French Revolution, he designed the King's Library in 1785.

The interior space of Boullée's library is intriguing. Normally classical columns rest on a stone plinth or stone foundations, but here they rest on books – on paper. Boullée cannot have intended them to rest on paper itself although it is possible that he meant them to rest on the words and thoughts expressed on paper. It is as if Boullée would like us to know that knowledge is the foundation of architecture. Perhaps he wanted to show knowledge as the foundation of magnificent architecture (as undoubtedly Boullée must have believed his own designs to be magnificent). No one capable of designing this kind of space can possibly have been a humble architect. Perhaps he was referencing the basis of architecture as encyclopaedic knowledge; after all Diderot's encyclopaedia was one pillar of the French Enlightenment. Perhaps he just wanted to tell us that the new civic buildings, the buildings of the new and self-assured citizen, had to be founded on the Enlightenment.

The Functional Library or the Librarian's Library

Boullée's design is more an architectural and political statement than a functional proposal. In 1816, Leopoldo della Santa drew up a plan for a library that stressed the functional aspects of the new public library. This is the first tripartite library plan in history. We can discern three major functions: spaces for reading; spaces for storage; and spaces for administration; all linked in an extremely rational way and, in essence, as all libraries still function today. Here is the functional solution to the universal library; a universal library with its objective of collecting everything and which for all time would be troubled by being too small. "*If you do not have the divine grace of religion, to tell you which books to keep and which to exclude, you are obliged to take in everything, and you are condemned to a library without end*." [7] With the tripartite library and its spacious storage spaces the problem was deferred for some time.

The National Library

Della Santa's tripartite organisation had a long lasting effect on library design; its most elegant implementation can be seen in Henri Labrouste's Bibliothèque Nationale in Paris. Boullée's plea for grand entrances and monumental presence was, however, short-lived and the question of architectural expression was again thrown open. Another aspect, that seems to have become increasingly important during the course of the 19th century, was that cultural institutions were considered an expression of national identity. Before the rise of nationalism, Europeans were generally loyal to a city or a particular leader rather than to their nation. From the late 18th century onward the idea of patriotic nationalism gained in popularity. Its development is closely linked to that of the modern state and popular sovereignty, which arose as a result of the French Revolution and the American Revolution.[8] At the beginning of the 19th century Nationalism was linked to the concepts of Republicanism and Liberalism, the two political children of the Enlightenment. This was a positive development as the ultimate aim was democracy. In the second half of the 19th century, however, nation and nationalism became synonymous with flag-waving chauvinism and cultural institutions became pompous and ostentatious.

In 1795, France's first royal library, the Bibliothèque du Roi, was renamed the Bibliothèque Nationale - the National Library. After several changes in regimes the National Library of France became the Imperial National Library and, in 1868, was moved to newly constructed buildings on the Rue de Richelieu, the site where Boullée had designed his library over 80 years earlier. Although finished in 1875, this library does not yet belong to the chauvinistic phase of nationalism; its exterior is not at all monumental. It is only inside that we see a monumental space: a grand, uplifting space celebrating the achievements of architecture and technology. This space is huge but not overwhelmingly so and the detailing is too refined and elegant to create a monumental effect. This library still makes use of the wall-system, which has always been more impressive than the stall-system. The limits of this concept, however, are evident. The central reading space cannot become much larger, as the distance between the bookshelves and the reading desks will eventually be much too great.

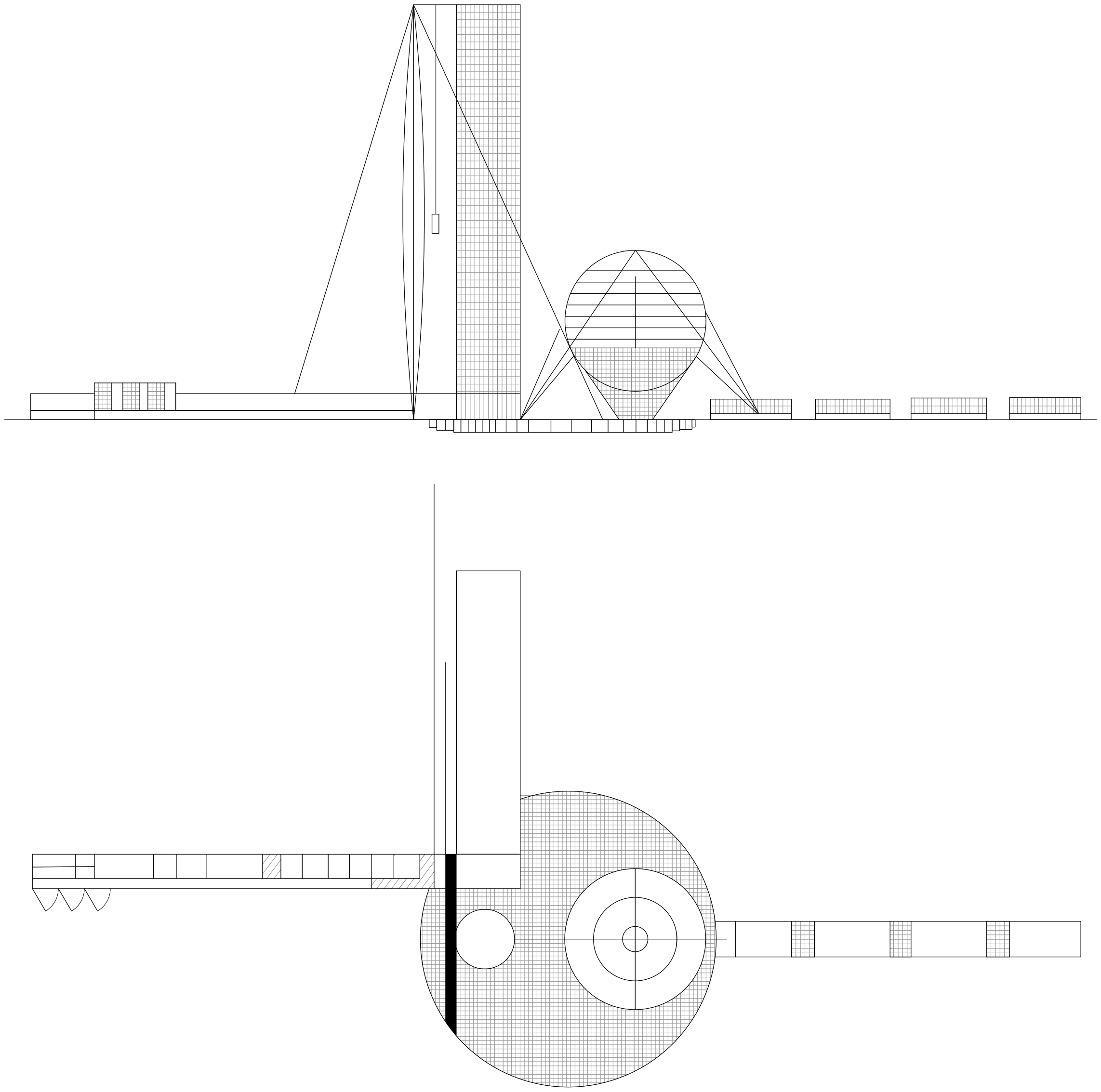
The architect, Gunnar Asplund is not usually associated with monumental nationalism. The transformation that he underwent whilst designing a public Library for Stockholm, however, is revealing. Although rooted in the 19th century, Asplund began to develop a great fascination for the new and modern concepts of 20th century architecture. The change shows his transformation from a traditional to a modern architect, most obvious in the design of the plinth. There is a strong contradiction in appearance: the heavy superstructure, still reminiscent of 19th century architecture, rests on a floating substructure that firmly belongs to the modern movement.

Gunnar Asplund's municipal library in Stockholm is one of the last library designs of the early 20th century to make use of the wall system. Here the rotunda is split into two separate rooms on either side of the rotunda and without reading desks. By the beginning of the 20th century, libraries have become too large to have only one central reading room.

Two last attempts to design a Universal Library

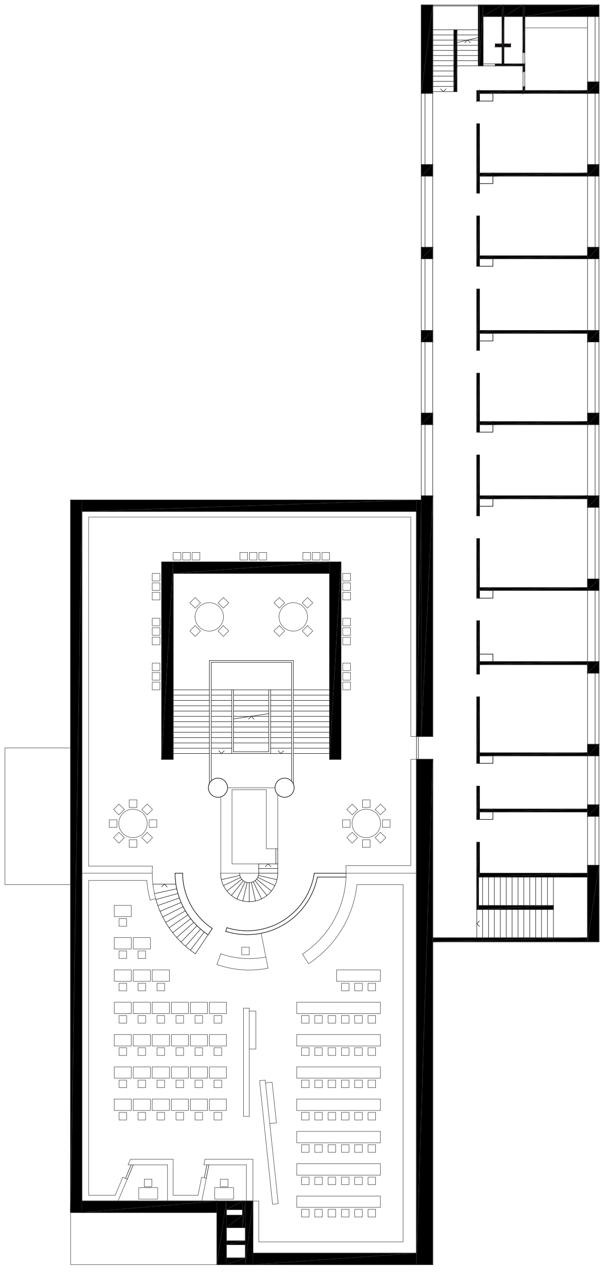
The physical universal library can never be big enough. This problem grew with each century as book production increased and technology progressed. However, what had at first seemed like a feasible idea, eventually became a utopian one.

One of the last attempts to establish a universal library was made in 1910 when two Belgian lawyers, Paul Otlet and Henri La Fontaine founded an institution aiming to collect the entire world's knowledge and to classify it according to a computational system. They called this institution a Mundaneum. An English pamphlet published in 1914 described it as follows: "*The International Centre organises collections of*



Lenin Institute

Ivan Leonidov, Moscow, Russia, 1927



Central City Library

Alvar Aalto, Viipuri, Russia (Formerly Finland) 1927 *world-wide importance. These collections are the International Museum, the International Library, the International Bibliographic Catalogue and the Universal Documentary Archives. These collections are conceived as parts of one universal body of documentation, as an encyclopaedic survey of human knowledge, as an enormous intellectual warehouse of books, documents, catalogues and scientific objects. Established according to standardised methods, they are formed by assembling everything that the participating associations may gather or classify. Closely consolidated and coordinated in all of their parts and enriched by duplicates of all private works wherever undertaken, these collections will tend progressively to constitute a permanent and complete representation of the entire world."*[9] The idea being that anyone could add to the knowledge being stored. This new interpretation of an old idea – the universal library – obviously needed a new kind of building.

The horrors of World War I and the errors that had led up to the war were enough cause to rethink the political order of many countries. After 1918, Otlet decided he no longer wished the Mundaneum to be built in Brussels; it now had to be close to the new League of Nations in Geneva, an institution that was established to guarantee global peace. The League of Nations was to be a political organisation that would secure law and order in the world; the Mundaneum was to be a global cultural organisation. Otlet asked Le Corbusier, one of the most progressive architects of the early 20th century, to design the Mundaneum.

Le Corbusier's design for a global library is less intriguing than his design for a museum of unlimited growth. The design acknowledges that future museums, like future libraries, will grow as they collect more and more works of art or books. This museum exhibited copies rather than original works of art, thus emphasising that the idea was more important than the physical presence of the original. This does reveal Otlet's purpose with even more clarity: it was to be an academy and not a treasure house.

The Mundaneum is an example of Le Corbusier's urban designs that anticipated the great changes that were to have an impact on cities less than a century later. Otlet anticipated that an industrial society was about to be replaced by an information society. The design was never built. Just as the world was not ready for a League of Nations, so time and technology were not ripe for Otlet's idea.

One other utopian library design warrants a mention here: Ivan Leonidov's 'Lenin Institute for Moscow' designed in 1927, his final university project, supervised by Alexander Vesnin. Like the Mundaneum, this too was a giant academy for a scientific community. The Lenin Institute was to be the young USSR's collective knowledge centre. Its constituent parts included a library with 15 million books; 5 reading rooms; and an institute of librarianship. It was to have auditoria varying in capacity from 250 – 4,000 people, a scientific theatre and research institutes for individual academic work. The books were to be delivered to the reader by means of vertical and horizontal conveyor systems. In the auditorium, inside the sphere, moveable suspended walls subdivided the space into partitioned sectors for the required number and type of auditoria. The entire auditorium was to seat 4,000 people. The research institute was to be linked to the auditoria and reading rooms and feature a whole number of devices: telephones, radios and remote television equipment. The institute was to be connected with the world through a powerful radio station.[10] The whole design, as Winfried Nerdinger has pointed out, looks a little like a huge receiver or transmitter.[11] Unlike Le Corbusier's design for a Mundaneum, Leonidov's architectural symbolism for a universal academy, transmitting and receiving everything the world has to offer, hasn't lost its prophetic qualities and one cannot help but feel that Paul Otlet hadn't really met his match when he asked Le Corbusier to design a Mundaneum.

A New Spatial Concept

Even those early modern architectural designs for libraries that were not utopian demonstrate a new type of public building that contrasts sharply with its 19th century predecessors. The purpose of the library became clear in both plan and expression, casting off monumentalism as a truly open, democratic public institution. The modern movement however, introduced more than a new style: it cast into concrete and set into stone an attitude that had taken a century to mature. The purpose of the open and democratic institution was now supported by a new spatial concept: the open plan.

Alvar Aalto's design for a library at Viipuri in 1927 cannot be described as being utopian. It is, however, ambitious in expressing the new spatial concept. One of the first library designs to demonstrate the advantages of an open plan, it introduces the idea of a spatial landscape in which shelving and reading desks could be mixed freely.

This library not longer situated within the context of the traditional town, but designed for a park where its form could be independent of urban constraints.

In 1967, Aalto designed a library that abandoned all the characteristics of enclosed space and in which main spaces are open and connected. Only the lecture room and the offices remain enclosed. There is no central reading room and the reading desks are distributed. Most reading desks are situated next to windows and so benefit from natural light. The shelves are arranged to shield the readers from disturbances.

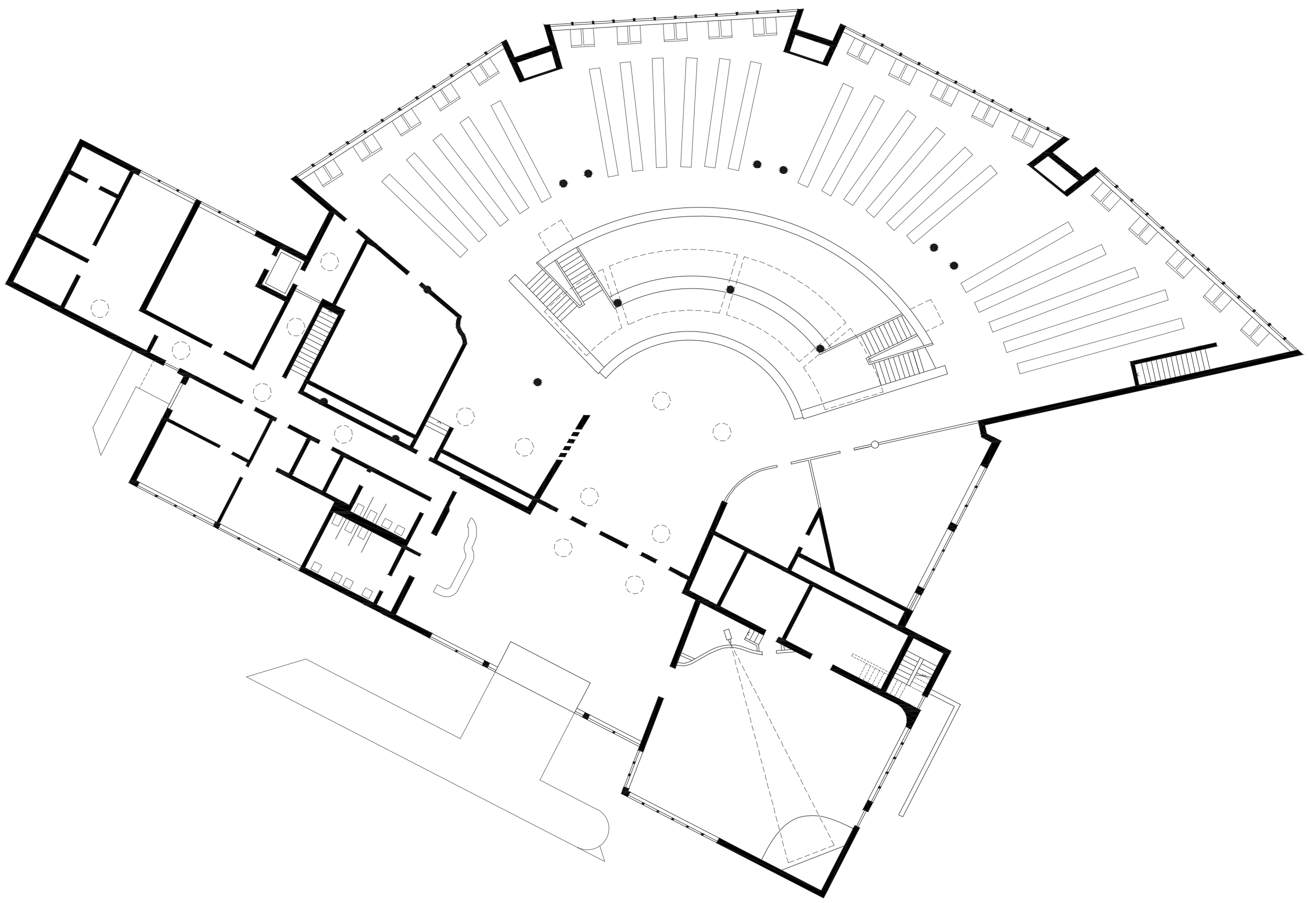
The Postmodern Library

The concept of the open plan changed the spatial character of buildings and the character of the European town. By the 1960s architects looked back both at what had been lost and found. To many architects of the second generation, the open plan seemed incompatible with the old town and with 2,000 years of architectural history. Aldo Rossi, for example, rediscovered the architecture of the old traditional city and in 1979 Oswald Mathias Ungers designed a library for Karlsruhe that not only respected its historic neighbourhood but which began to reinterpret the traditional urban forms by a process of de- and re-composition. Ungers reintroduced the central reading space, thereby giving stability and orientation in an ever-growing sea of books.

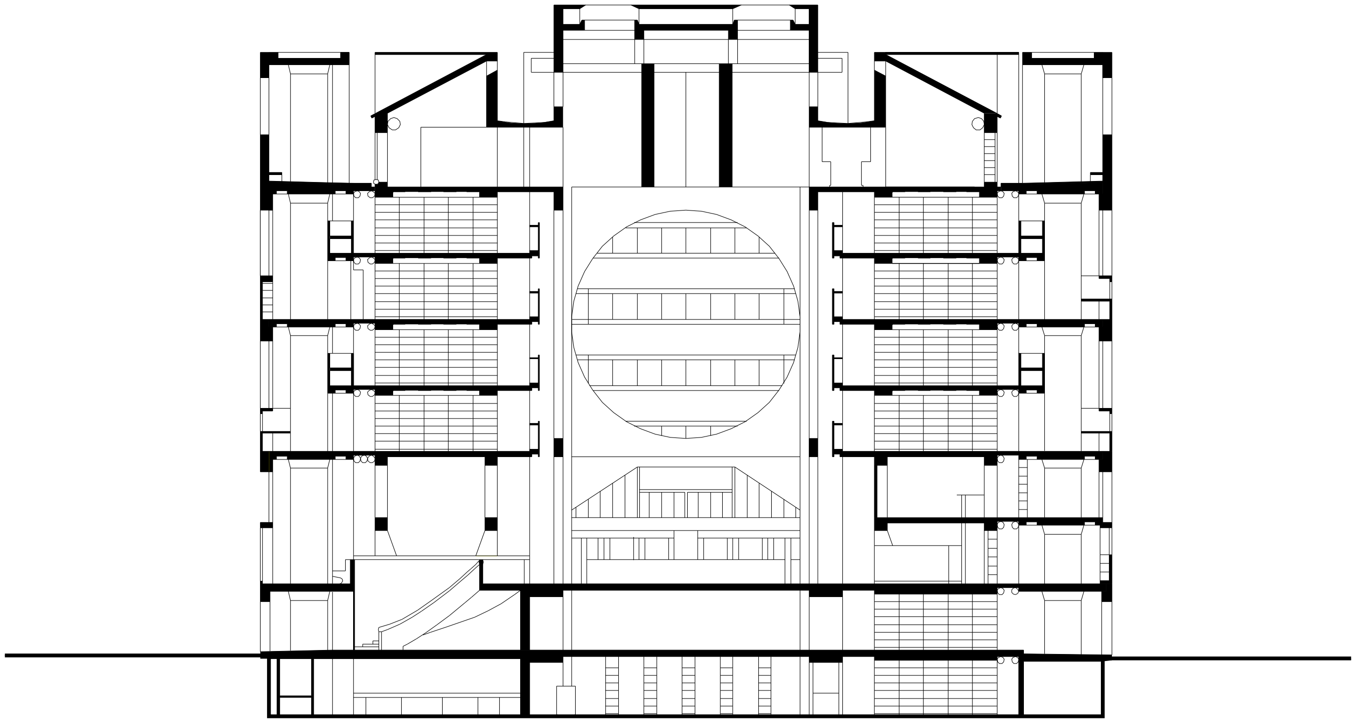
For architects such as Oswald Mathias Ungers, Aldo Rossi and Giorgio Grassi the context became a significant factor in determining the urban shape of buildings. These architectural developments did not, however, have a decisive influence on the purpose of the library, rather they attempted to reconcile principles of the modern movement with traditional architecture and redefine public urban space.

The Library as Skyscraper

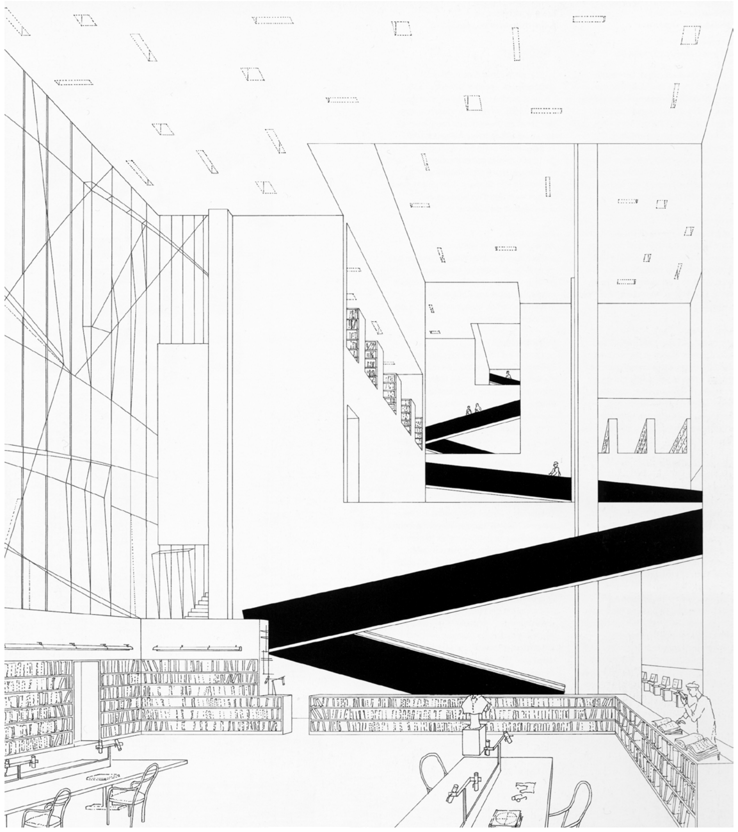
Early modern architects invented both the open plan and the skyscraper. For some, high-rise buildings were



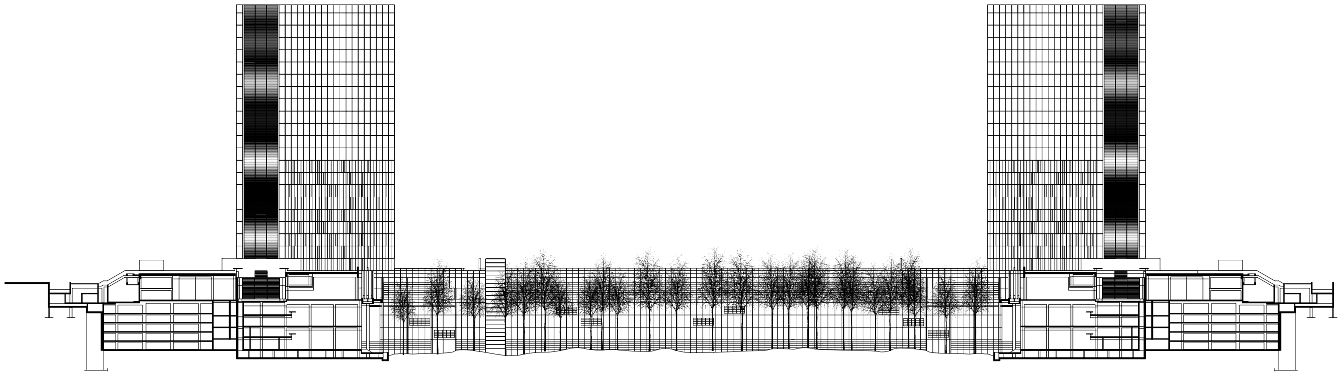
Library of the Mount Angel Benedictine College
Alvar Aalto, Oregon, USA, 1967



Exeter Library
Louis Kahn, New Hampshire, UK, 1967



Design for an American Library
Steven Holl, Berlin, Germany, 1988



Bibliothèque Nationale de France
Dominique Perrault, Paris, France, 1990-96

the expression of the new open and cosmopolitan society; for others they were merely a technical challenge. Some believed that the skyscraper would be the answer to reducing land allotted to human development, while others hoped to benefit by gaining prestige or economic benefits. Whatever their motivation, the skyscraper has changed the shape of our cities, the way we organise public functions and our wider perceptions of public buildings.

There are new challenges in stacking reading spaces, rather than arranging them horizontally. Louis Kahn's university library in Exeter is one of the first examples in which the reading spaces were separated by stacking. The architect was faced with having to establish spatial unity across all four floors. He solved this by introducing a central space - not a traditional reading room - but a huge vestibule that allows the visitor to have a first overview of the extent and workings of the library; a space therefore which is crucial to his orientation. The section reveals an ingenious handling of heights. The vestibule is huge, giving the library a clear public presence; the bookshelves are sandwiched between floors with a very low floor to ceiling height and the reading spaces are again generous. Once more we see them adjacent to windows and behind bookshelves. This sequence of contrasting height adds tremendously to the grandeur and beauty of the building.

Steven Holl's design for a library in Berlin also shows the challenge of a multi-storey library. Every architect faced with the problem of designing a vertical library will have to counter the spatial separation caused by stacking floor-levels. Holl achieved this by expanding the space on the diagonal, thereby securing one continuous space throughout all floors, in contrast to Kahn's approach of introducing a single vertical space.

When we look at the challenges of libraries in skyscrapers, the Bibliotheque Nationale de France by Dominique Perrault is inspiring. Perrault seems to have been aware of the dilemma of organising public spaces in a tower. Instead of placing all storage space underground and all public space above ground therefore - which is the traditional solution - Perrault placed all public space underground, whilst storing the books in four glass towers, each shaped like an open book. The "open book" metaphor can be seen as an attempt to turn the building into a symbol representing a library, thus releasing the tower from its modern association with mundane office and apartment towers. Inadvertently however, the building has also become a symbol for the limitations of the physical library. Once you see the size of this national library, it becomes difficult to envisage the size of a universal library. It would be even more difficult to imagine what a universal library would look like in 50 years time.

The Universal Library has become reality

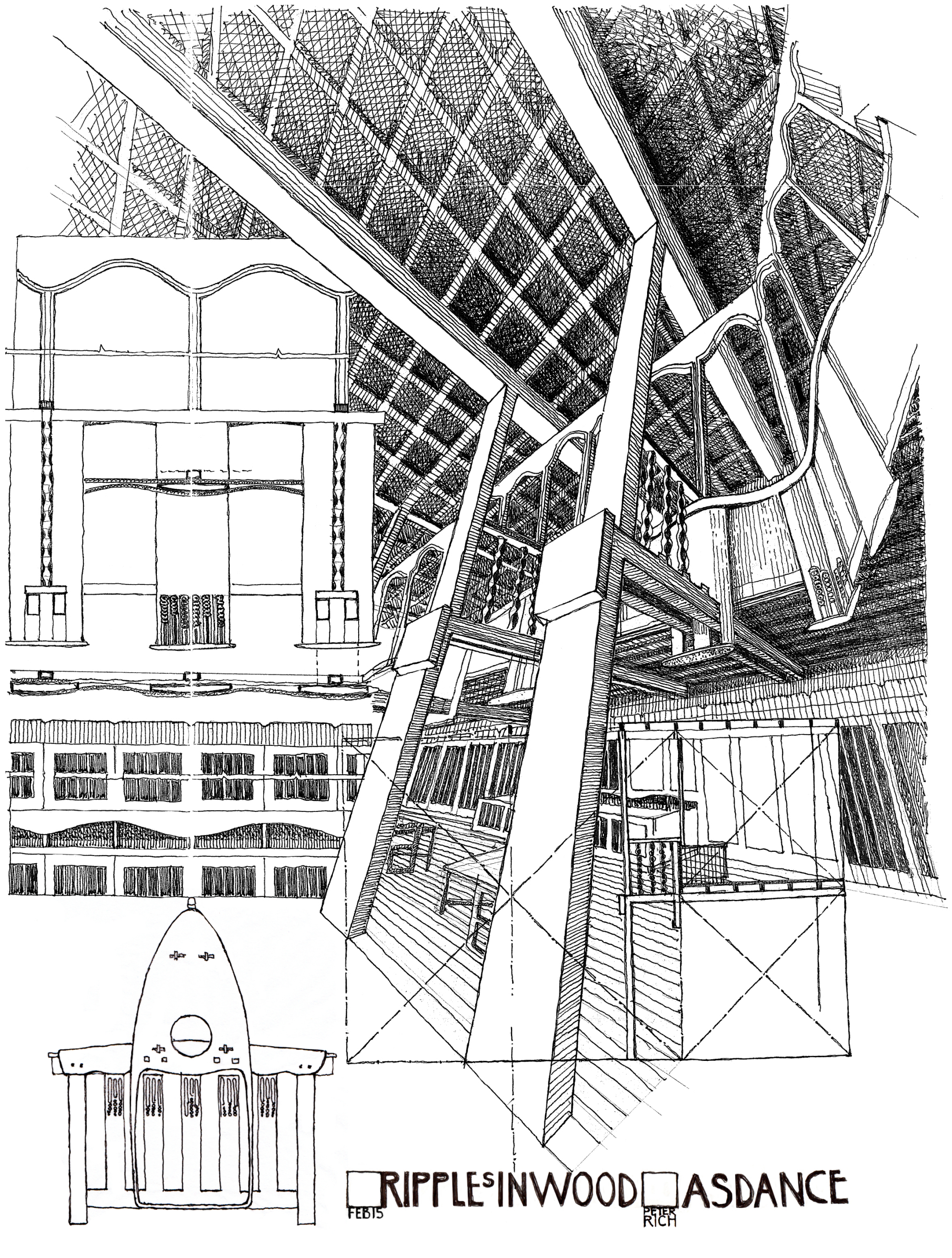
Whatever technological changes still have in store for the physical library, one advantage is fairly evident - there is an unburdening of one of its components that has grown disproportionately to all the others. Just imagine the advantages of being able to cut down on storage and the advantages of being able to focus on all those spaces that initially changed the purpose of the library from an archive to an academy: i.e. the reading room, the lecture room, the dining room, the garden and the shady colonnades.

It is not likely that technology will be a threat to the physical institutions we call libraries. It will not even threaten their status as public and democratic institutions. On the contrary, up to now, the additional space freed up by the use of electronic publishing and storage has helped fulfil Paul Otlet's dream of a true universal and democratic library.

Libraries are more than a collection of books and they are more than a collection of people who work with books. Anyone who has spent time in the reading rooms of the great libraries will have experienced the auratic character that lingers in these spaces and longer in the memory. Peter von Matt has pointed out that the physical library can give us an idea of the tension between both the essentially public and essentially private nature of the library - often expressed in the contrast between the grand and monumental reading room and the lonely reader's desk. This also refers back to the fact that great public book collections once began as the bedside collection of one person. Peter von Matt mentions Thomas Jefferson's library, which forms the nucleus of the second largest library in the world: The Library of Congress in Washington.[12]

Charles Rennie Mackintosh's library design for the Art School in Glasgow is not an example that comes to mind when attempting to explain the changing purpose of libraries throughout history. It has, however, become one of the world's iconic architectural library spaces, and not only because it is one of the finest examples of one of the shortest stylistic periods in history. It still holds meaning for our time. Why? It doesn't impress because of its size, there is no unique way of organising space and its entry, almost hard to find, is at the end of an unspectacular corridor. Those who have seen the library, however, will remember its prolonged emotional impact. This had something to do with Mackintosh's unique personal style, it had something to do with his extremely careful attention to detail and it had something to do with the circumstance that it was a dark space. The visitor needed time to become fully aware of details as they appeared slowly. Time did change pace in this library. It was a space saturated with qualities that suspended time, and because of this, its loss is particularly painful.

- Karl-Heinz Schmitz


RIPPLES IN WOOD AS DANCE
FEB15
PETER RICH

Looking and Drawing

Peter Rich

Icon of Modernism

In 1973 as a young graduate in architecture studies I made a pilgrimage from South Africa to Scotland to see and experience Charles Rennie Mackintosh's work first hand. While in Glasgow I signed up as a member of the newly formed Charles Rennie Mackintosh Society. In 1977 I started what was to become a thirty year academic career by giving my very first lecture on Mackintosh's work.

The Library at the Glasgow School of Art, completed in 1909, together with R M Schindler's Kings Road Los Angeles house 1921/22 were, in my opinion, two of the seminal first modernist iconic works of 20th century Architecture. At the time the works of other American contemporaries, Frank Lloyd Wright's Oak Park Studio (1899) and Greene and Greene's Gamble House (1906), were far surpassed by Mackintosh's spatial genius and material and ordering finesse. I also think it predated by a decade and a half Rietveld's Utrecht Schroeder house (1924). Penetrating the central void of the Glasgow School of Art library, the outriding column and beams in structuring the space, pre-empts Richard Neutra's use of this device to embrace the pulling of composed landscapes as a hallmark of modernism in his work by some 40 years.

Constructing Space in Light

It is rewarding, some 40 years after my first visit to Glasgow, to be learning through reflection and drawing on my re-engagement with the library.

The set piece of the library composition is structured as a symmetrical 3 sided composition, creating a central double height void. This void can be likened to an aedicule of space (room within a room) experienced in the negative.

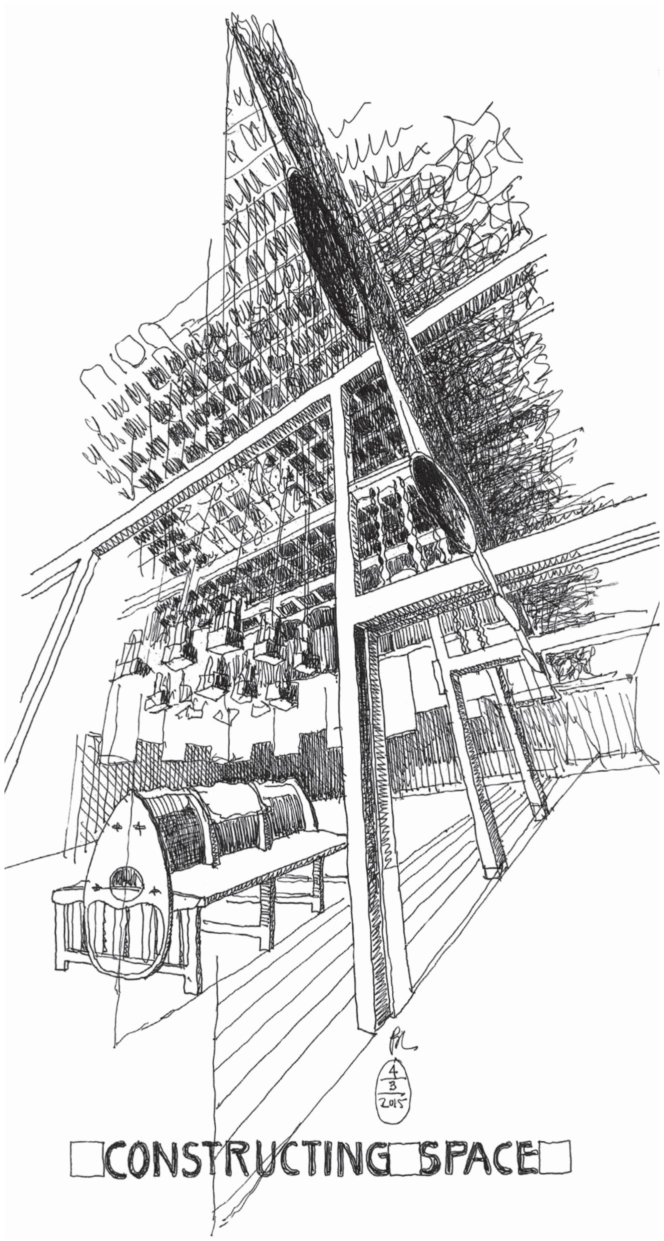
Evident in earlier photographs, the flat, centrally located periodical table did little to heighten the drama of the void. Mackintosh's response to redesigning the periodical stand as a vertical room divider was brilliant - it now acted as a dramatic counterpoint to the tumble of the cluster of lights, whose design evoked in me the orchestration of a city of multiple identical sky scrapers beaming light suspended in mid-air.

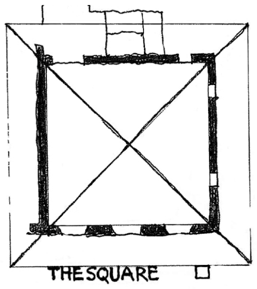
The library space is a perfect square. Within this format Mackintosh makes constructive use of the Tartan Grid as an ordering device.

In the library Mackintosh uses predominantly one material – wood. He explores and puts in dialogue both the rectilinear crispness of wooden sections and the sensuous softness that can be achieved through bending and shaping.

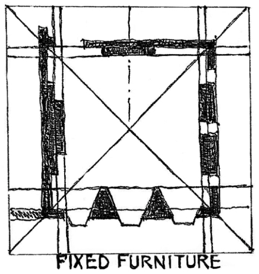
Mackintosh understood ambient light. Side and backspaces and lofty soffits envelop the background, making time stand still, in this atmosphere of tranquillity. The staining of the wood gives the space a blue black quality. Mackintosh understands the power of silhouette and droplets of colour that gleam in the light and in the dark. He also understands the importance of shadows and serenity of half-light. It seems to absorb light.

- Peter Rich

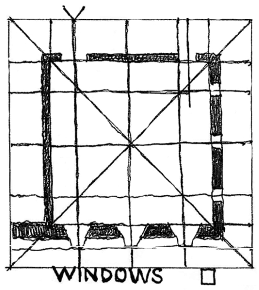




THE SQUARE ☐



FIXED FURNITURE



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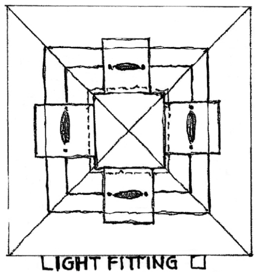

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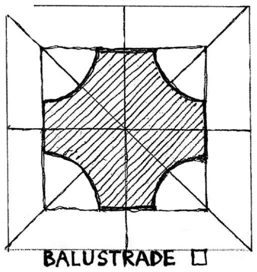
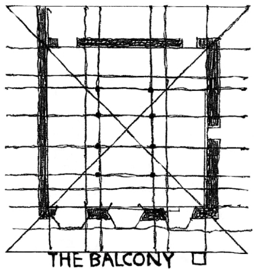
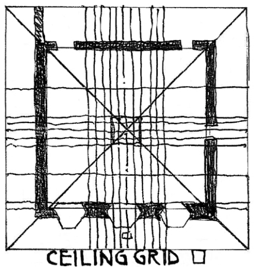


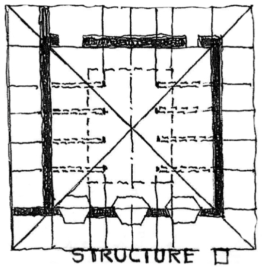
BALUSTRADE ☐



THE BALCONY ☐



CEILING GRID ☐



STRUCTURE ☐

Postscript

Christopher Platt

Why does the work of some artists endure through the centuries in ways others' don't? Shakespeare, Mozart, Titian, Wren have become unimpeachable figures for example and we could all make up our own list no doubt. Are some artistic outputs so timelessly accomplished and perfectly formed, that by their sheer quality they can withstand the changing currents of time? Are they so pregnant with ideas that each successive generation discovers something relevant and meaningful in them? *'To be always relevant, you must say things that are eternal'*,[1] as Simone Weil put it.

In his book 'Subsequent Performances',[2] Jonathan Miller quotes Nelson Goodman in distinguishing what Goodman calls autographic works of art which are the result of the artist's physical handiwork (such as paintings and sculptures) and allographic works of art which have to be recreated in performance (such as music, plays, operas and songs). Although he makes no reference to architecture, the building of a building from a set of drawings made by an architect has clear parallels with performing a play from a writer's text or playing music from a composer's score, even if the performance takes place only once (as is usually the case in architecture). Works of architecture in other words, can be also understood to be allographic.

Miller goes on, *"One of the reasons Shakespeare continues to be performed is not that there is a central realizable intention to each play that we still continue to value, but because we are still looking for unforeseen things"*.[3] This is perhaps how great art inspires subsequent generations. *"We see things not as they are, but as we are"*.[4] Does Miller's comment on Shakespeare also apply to Mackintosh and if so, what is compelling about his work to the emerging, post-digital generation?

Four members of that generation are the authors behind this series of new drawings within these covers as well as the curators of the design and layout of this book. Theirs has been a journey of research. They have been searching for something using drawings as their maps and compasses- their two dimensional research tools. These drawings reveal particular characteristics and qualities about Mackintosh's Library and by association what strikes them as important.

Focusing on the collective complexity of the Library's timber elements illuminates Mackintosh's empathy with Japanese design and that country's inventiveness in timber assembly (not a traditional Scottish trait). Like pieces of a finely-tuned harpsichord, the Library structure appears impossibly delicate and incapable of supporting human activity. The character revealed suggests a mysterious kinetic sculpture whose moving parts might generate gentle chimes if touched. Removing the physical context of the surrounding stonework (the 'castle walls') in the drawings, allows us to see the inner vessel in a new light and reveals it as fragile, vulnerable, abstract and open to interpretations. The Library's inner structure as a result seems rather matter-of-fact, seemingly composed of layers upon layers of wooden sticks and giving no indication that in reality it assembled a space of transcendental quality- that dark, fleetingly heavy structure which we were used to experiencing on entering the original space. Is it a temple, a tea house, a pavilion set within a flat open landscape? Mackintosh manages to utilise complexity in the creation of serenity and tranquillity.

These drawings illuminate Mackintosh's restlessness in advancing artistically and his highly developed skill in the act and artistry of timber assembly. It also suggests a quest to create a space of tranquility and 'centredness', set (as it was then) amidst the ferocious vortex that was the industrialisation of Glasgow in the late 19th and early 20th century. Mackintosh works through this tension with increasing abstraction in his spaces; the most accomplished of which transcends the physical presence of stone, mortar and wood (the drawing rooms of Hillhouse, Florentine Terrace and House for an Art Lover as well as of course the School of Art Library). This abstraction through material expression, marrying the real and the unreal, imbues his work with a freshness, shaking it out of the 19th and 20th century and registering it on the architectural radar of the post digital generation, already seeking their own direction.

Mackintosh's work generally and the Library in particular suggests a restless talent seizing every creative opportunity and transforming everything he touches as if aware of the limited opportunities at his disposal. The enduring attraction in his work for creative practitioners, is not just in the accomplishment of the artefacts themselves, but in the opportunity we are given to share his own sense of still looking for unforeseen things. The students' drawings, John Barr's timeless photographs and the important contributions from our distinguished international colleagues, are all evidence of the astonishing, enduring appeal and power that Mackintosh's work commands and inspires.

The Library in the School of Art can rightly be understood to be an allographic work of art, but one that will be performed not once, but twice. What will distinguish the inaugural performance of 1909 to the performance scheduled to take place in 3-4 years' time when the Library reopens, remains to be seen and experienced.

- Christopher Platt

Appendix

Notes + References

FOREWORD - BRIAN CARTER

1. John Hejduk, *Thoughts of an Architect,* 1986.
2. Walter W. Blackie, *Memories of Charles Rennie Mackintosh* 1943, reprinted in *Scottish Art Review XI* 1968.
3. Edward Robbins, *Why architects draw*. MIT Press 1994. P. 249.

THE MEASURE OF THINGS - PAUL CLARKE

1. The brief for *The Glasgow School of Art: Conditions of the Competition of Architects for the proposed School of Art.* First published in Appendix A in: Buchanan, William, *Mackintosh's Masterwork*. The Glasgow School of Art (Glasgow: Richard Drew Publishing, 1989),pp 205-212. It is now available online in the catalogue of *Mackintosh Architecture: Context, Making and Meaning*. The http://www.mackintosh-architecture.gla.ac.uk brief is dated as June 1896.
2. The South Kensington system was based on The National Course of Instruction which required some 23 stages of drawing to be followed. The brief for the Glasgow School of Art was based on this system of instruction.
3. The library is item 9D in the schedule of accommodation in the 1896 brief.
4. In Shakespeare's *The Tempest* Prospero (the rightful Duke of Milan) is put to sea with his daughter Miranda. Exiled on an island he turns to the few possession he has brought: his books, in order to rebuild the world he has been exiled from. This is played out to great effect by Peter Greenaway in his cinematic exploration of the Shakespeare play: *Prospero's Books*. 1991
5. Belardi, Paolo, *Why Architects Still Draw. Two Lectures on Architectural Drawing,* (Cambridge, Massachusetts. MIT Press, 2014)
6. This subheading appears in the second of the lectures : *No Day Without a Line. A Lecture on Informed Drawing*. It is the last section of the book. pp95-109
7. Macauley, James, The Glasgow School of Art. Architecture in Detail, (London: Phaidon)1993. This book has gone through a series of reprints in different formats. Many buildings were covered in this original series including two on Mackintosh with drawings by the author.
8. This drawing can be viewed online as part of the catalogue of *Mackintosh Architecture: Context, Making and Meaning*. http://www.mackintosh-architecture.gla.ac.uk. Under the section on GSA Drawings it is identified as M134-052 Section, June 1907. The original source is identified as Glasgow Dean of Guild. This online catalogue provides an excellent resource to Mackintosh's drawings in relation to not only the Glasgow School of Art, but all of his other buildings and projects.
9. It is well documented that during the second phase of the building Mackintosh's proposals for materials and designs came increasingly under the scrutiny of the building committee. This was specifically in relation to the cost of works that Mackintosh had instructed and which differed from that which was approved by the committee or which appeared on the drawings.
   The famous painting by Francis Newbury of the building committee to which the painter added Mackintosh at a later stage to the canvas, shows Mackintosh's estrangement from the committee.
10. Ruskin, John, *The Stones of Venice, Volumes I-III* (London: Smith, Elder & Co, From 1851-1853)
11. Vesalius, Andreas, *De Humani Corporis Fabrica Volumes I-VII* (1543)
12. We know from the records of the building committee that this was the case and that Mackintosh was forced to make various savings such as the type of wood to be used in the library in relation to the overall building costs.
13. Howarth, Thomas, *Charles Rennie Mackintosh and the Modern Movement* (London, Boston and Henley: Routledge & Kegan Paul), Originally 1952. First reprint 1977. This quote is from page 89 with reference to the Library in the section on the Glasgow School of Art.
14. Carlyle, Thomas, Historical Essays. *The Norman and Charlotte Strouse Edition of the Writings of Thomas Carlyle* (University of California Press) 2002. This quote is taken from the essay called '*On History*'.

A BRIEF HISTORY OF THE LIBRARY - KARL-HEINZ SCHMITZ

1. Prof. Andrew George, *BBC In Our Time: Culture*, Melvyn Bragg: *The Library at Nineveh*, 2008
2. Foskett, D., 2014. *Encyclopaedia Britannica: Library*.
   Available from: http://www.britannica.com/EBchecked/topic/339421/library
3. Dickey, C., 2010. *On Bones and Libraries: St. Jerome*.
   Available from: http://cranioklepty.com/blog/2010/04/06/on-bones-and-libraries-st-jerome/
4. Pieper, J., 2014. *Encyclopaedia Britannica: Scholasticism*.
   Available from: http://www.britannica.com/EBchecked/topic/527973/Scholasticism
5. Jochum, U., 2010. *Geschichte der Abendländischen Bibliothek*. Wissenschaftliche Buchgesellschaft, Darmstadt.
6. Jochum, U., *Geschichte der Abendländischen Bibliotheken*. S. 97
7. Dickey, C., 2010. *On Bones and Libraries: St. Jerom*e.
   Available from: http://cranioklepty.com/blog/2010/04/06/on-bones-and-libraries-st-jerome/
8. Kohn, H., 2014. *Encyclopaedia Britannica: Nationalism*.
   Available from: http://www.britannica.com/EBchecked/topic/405644/nationalism
9. Rayward, W. 1994. *Visions of Xanadu: Paul Otlet (1868–1944) and Hypertext* in Jasis 45. pp. 235–50.
10. Wolfe, R., 2014 *Ivan Leonidovs Proposal for the Lenin Institute* in *The Charnel-House: From Bauhaus to Beinhaus* (blog).
    Available from: http://thecharnelhouse.org/2014/03/21/ivan-leonidovs-proposal-for-the-lenin-institute-in-moscow-1927/
11. Nerdinger, W., 2011. *Von Alexandria zum digitalen Babel – Der Traum von der Universalbibliothek*, in *Die Weisheit Baut ein Haus*, Prestel Verlag
12. Matt, P., 2007. *Die Wissenschaften und die Zeit, Über die Paradoxie der Bibliotheken* in *Das Wilde und die Ordnung*, Carl Hanser

POSTSCRIPT - CHRISTOPHER PLATT

1. Lennon, D., 2002. *Turning the Diamond*, SPCK, London, pp6.
2. Miller, J., 1986. *Subsequent Performances*, Faber and Faber, London, pp32.
3. Ibid, pp 35.
4. Ballantyne, I., 1994. 'Artists and Materials', in *Mac Journal One*, The Mackintosh School of Architecture, Glasgow.

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Contributors

MARK BAINES

Born in Birmingham, England, in 1952, Mark Baines studied architecture at the Mackintosh School of Architecture 1969 -76. Baines worked with Gillespie, Kidd & Coia and then in private practice. He has taught Urban Studies and Urban Building courses at the Mackintosh School of Architecture since 1982, whilst working on a number of housing projects in the ensuing period, most notably at Glasgow Cross with Gholami Baines Ltd. Baines has curated numerous exhibitions including Architectural Drawing as well as the architecture of Alexander Thomson, Gillespie, Kidd & Coia and Steven Holl Architects' new building for the Glasgow School of Art and has also written and lectured on these subjects. Baines was awarded a Lifetime Achievement Award for architectural education by the RIAS last year.

JOHN BARR

After graduating from the Department of Architecture at Strathclyde University in 1976, John Barr gained intensive experience working in the U.K, the Netherlands and Oman before moving to Japan in 1988. In 1992, Barr opened an office in Japan, becoming the first Briton to become registered as an architect in the country. Barr's architectural works have been published and exhibited in London and Tokyo and he received the Japanese Institute of Designers Award for his work at Kansai International Airport. Since 2004 Barr has actively pursued a practice-based research agenda, encompassing both technical and cultural fields. He is a member of the RIBA and the AIJ (Architectural Institute of Japan) and a Fellow of the RIAS. He is a design studio tutor and visiting lecturer at Strathclyde University in Glasgow and Tokyo University of the Arts and visiting research fellow at Mukogawa Women's University in Kobe. In recent years Barr has advanced his interest in both photography and printmaking. He received the 'Architect's Eye' Award for architectural photography and his work has been published in Japan and the U.K. and is included in the RIBA Photographic Library. His prints have been exhibited in Glasgow, London and Osaka.

BRIAN CARTER

Brian Carter, a registered architect in the United Kingdom who formerly worked in practice with Arup in London, is Professor of Architecture in the School of Architecture and Planning at the University of Buffalo, The State University of New York. Author of the book on Wright's buildings for the Johnson Wax Company by Phaidon Press, he was a contributor to "Stirling + Wilford. American Buildings" recently published by Artifice.

PAUL CLARKE

Paul Clarke is an architect, writer and filmmaker. He is a Reader in Architecture at the Belfast School of Architecture and Art, where he runs the M Arch 6th Year Studio. Clarke is a member of the Research Institute of Art and Design and participates in several research groups such as AIARG, CACity and AHRA. He is a supervisor for several PhDs related to film and drawing, and directs the School's Research and Academic Enterprise section SE+ARCH. Born and trained in Glasgow, he has collaborated on a number of books on Mackintosh's work. He taught at the Mackintosh School of Architecture from 1990-95. He is the curator of a touring exhibition on architects' sketchbooks called *The Secret Laboratory* which has toured the UK and Ireland. He recently directed and produced the film *Drawing on Life* which explores the value of hand drawing in contemporary practice. The film features O'Donnell + Tuomey, Grafton Architects, Tom dePaor, amongst others, and has been shown internationally at various Film Festivals in America, Canada, Australia, UK, Poland, Portugal, India and Ireland. A recent screening of the film was held at the Seattle Library designed by OMA, which was supported by the American Institute of Architects as part of Seattle International Design Festival.

TOM INNS

Professor Tom Inns was appointed Director of The Glasgow School of Art in September 2013. He was previously Dean of Duncan of Jordanstone College of Art & Design (DJCAD) and Director of Research for the College of Art Science & Engineering at the University of Dundee. Professor Inns studied Engineering at Bristol University and Industrial Design Engineering at the Royal College of Art. In 1990 he was a co-founder of the Design Research Centre at Brunel University, becoming Director in 1996. He completed his PhD exploring design and innovation in small businesses in 1998 and moved to DJCAD as Professor of Design in 2000 becoming Head of the School of Design in 2001, where he established new undergraduate and postgraduate programmes linking curriculum in design and fine art with computing, engineering, medicine and the humanities. In 2004 he was appointed as Director of the UK Research Council funded, Designing for the 21st Century Research Initiative. Over a five-year period he led this £6.5 million initiative co-ordinating the work of 41 research projects, linking design to disciplines in science and engineering in universities across the UK. In 2010 he was appointed Dean of DJCAD. He has a strong interest in the future of design and how design approaches can facilitate interdisciplinary discussions. He teaches strategic design at various universities and regularly designs and facilitates knowledge sharing events and workshops with research organisations and innovation agencies across Europe.

CHRISTOPHER PLATT

Christopher Platt is Head and Professor of Architecture at the Mackintosh School of Architecture, Glasgow, and one of the founding directors of studioKAP architects. He is a registered architect in the United Kingdom and was previously a member of the Architektenkammer in Berlin. He is a Fellow of the Higher Education Academy and was made a Fellow of the Royal Incorporation of Architects of Scotland in 2009. He is involved in both practice-based research and research-driven practice and writes on a wide range of issues overlapping practice and academia. He was apprentice, student and design tutor at the Mackintosh School of Architecture, Glasgow, under Professors Andy MacMillan and Isi Metzstein.

PETER RICH

Peter Rich's greatest contribution to African architecture has been through his seminal research into African concepts of space-making in sub Saharan Africa. He has successfully applied this knowledge in his Architectural practice Peter Rich Architects, in improving the quality of life of African communities. By telling the stories of both living and past cultures through cultural heritage projects, Peter Rich Architects has embarked on communicating the genius of Africa to the World. Peter was relatively unknown in Europe before winning the World Building of the Year at the World Architecture Festival held in Barcelona in 2009 for the Mapungubwe Interpretation Centre. Recent projects include Thematic Master Planning for Aksum, Ethiopia and the Laetoli African Footprint Museum in Tanzania. He co-founded the Kigali, Rwanda based practice Light Earth Design in 2013, in order to lead the development of local African building industries through the application of appropriate building technologies. His research has also led to the design of high density urban environments in Africa. Peter Rich lectures and directs International Master Classes researching and working on African based projects. His contribution to African and World Architecture, has recently been honoured by the following Architecture Institutions: International Fellow of the RIBA (Int. FRIBA) 2015 and Honorary Fellow of the American Institute of Architects (Hon. FAIA) 2012.

KARL-HEINZ SCHMITZ

Karl-Heinz Schmitz was born in 1949 in Bad Godesberg (Germany). He grew up in Cape Town (South Africa) and graduated in 1978 from the University of Cape Town and in 1988 from the Technische Universität Karlsruhe. From 1980 until 1993 he worked in the offices of Haus-Rucker-Co (1980), O.M.Ungers (1981 – 1986) and Karljosef Schattner (1987 – 1993). In 1993 he became Professor for the Design and Theory of Building Types at the Bauhaus-University Weimar. From 1993 to 2012 Karl-Heinz Schmitz ran his own architectural practice.

The Glasgow School of Art

THE MACKINTOSH SCHOOL OF ARCHITECTURE

Founded in 1845 as a Government School of Design and one of the UK's oldest higher education institutions for creative education and research, The Glasgow School of Art (GSA) has become one of the Europe's leading small specialist institutions for the creative education and research in architecture, design and fine art. Architecture has been taught at the GSA from 1903 and The Mackintosh School of Architecture ("The Mack") remains unique in UK architecture education by being part of one of the few remaining independent art schools in the UK.

GLASGOW SCHOOL OF ART BUILDING

In 1896 a competition brief was set by director Francis Newbury and the school board to design a new building for the expanding numbers at the Glasgow School of Art (GSA). The tight budget of £14,000, for the challenging sloped site on Renfrew Street, was contested by the competing architectural firms resulting in a compromise that allowed them to submit proposals for two distinct phases. In 1896, the design contract for the new building was awarded to the firm Honeyman and Keppie, where a young Charles Rennie Mackintosh was junior draughtsman. The first phase for Mackintosh's design, covering the East wing of the building up to the central entrance, including the Director's Room, the Board Room and the Museum, was completed December 1899. The construction of the second phase of the school began eight years later in 1907. This included amendments to the original design, such as the new 2nd floor studio and supplementary workshops to the sub-basement to support the further increase in student numbers. During the years between the completion of the first phase and the commencement of the second, Mackintosh's architectural style matured considerably. This maturity is most evident in the design of the library and the elevations to the West and South. The success of the Glasgow School of Art lies not only in its celebrated design but also in its robustness to support over 100 years worth of art school students with minimal alteration. During its construction, and for some time after, the Glasgow School of Art was criticised for being an indulgent art nouveau building. However, Sir Nikolaus Pevsner's "The Pioneers of the Modern Movement" (1936) more accurately credited Mackintosh's design for its influence on the Modern Movement in architecture. The Glasgow School of Art is now recognised as being one of Scotland's greatest and most loved buildings of the last century.

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Afterword

This publication provides a timely opportunity to reflect on what we do and don't know about the library at the Glasgow School of Art. Despite being widely documented and photographed, and now beautifully illustrated in this book, the 2014 fire has challenged our understanding of this unique space.

Over the next three years, through the restoration of the library, we will have an opportunity to develop new insights into Mackintosh's thinking and working practices.

The damage caused by the flames has exposed new knowledge about how the library was actually constructed. The forensic recovery of debris from the library is already allowing the restoration team to analyse and understand the materials and construction methods used by Mackintosh in new ways. Piecing the library back together also fills other gaps in knowledge, re-enacting the construction will tell us a great deal about the teams and people that might have originally worked on Mackintosh's masterpiece. Finally, and perhaps most importantly, carefully retracing Mackintosh's steps will allow us to experience his holistic approach to architecture first hand, something that could only be imagined when we looked at the original library. In summary, plenty of things that we have a responsibility to reflect on and write about in future publications.

Tom Inns